Phase II Stormwater Management Program 2018 Annual Report

Permit No. MI0057364

April 2019

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Acronyms and Abbreviations

BMP	Best Management Practice
EOC	Engineering Operations Committee
IDEP	Illicit Discharge Elimination Program
LTAP	Local Technical Assistance Program
MDEQ	Michigan Department of Environmental Quality
MDOT	Michigan Department of Transportation
MEP	Maximum Extent Practicable
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
PIPP	Pollution Incident Prevention Plans
QAQC	Quality Assurance Quality Control
SEMCOG	Southeast Michigan Council of Governments
SESC	Soil Erosion and Sedimentation Control
SWMP	Stormwater Management Plan
TMDL	Total Maximum Daily Load
TSC	Transportation Service Center
YTD	Year to Date

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Appendices

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1. Introduction

This Annual Report presents stormwater pollution control activities implemented by Michigan Department of Transportation (MDOT) during the 2018 monitoring period, in compliance with the National Pollutant Discharge Elimination System (NPDES) Permit No. MI0057364, hereinafter referred to as the Permit. The Permit was issued by the Michigan Department of Environmental Quality (MDEQ) and expired on April 1, 2009. The Permit has been administratively extended and MDOT is continuing to comply with the existing permit. A permit renewal application was submitted for review and the new permit is expected to be issued during 2019.

As part of the renewal application, MDOT has created a comprehensive Stormwater Management Plan (SWMP) designed to reduce the discharge of pollutants from the MDOT drainage systems to the maximum extent practicable (MEP), protect the designated uses of the waters of the state, increase awareness of stormwater as a potential source of pollutants, and satisfy the applicable state and federal water quality requirements.

1.1. Report Objectives

The objectives for this annual report are as follows:

- To inform MDOT Staff about SWMP activity accomplishments
- To satisfy MDOT's annual reporting requirement of the Permit
- To evaluate and assess the appropriateness and effectiveness of MDOT's SWMP, and
- To present information about new programs, changes to current programs and procedures developed by MDOT.

1.2. Report Organization

The annual report highlights actions MDOT has completed in 2018 to fulfill Permit requirements. The reported information closely follows the requirements of the six minimum measures of the Permit which include:

- Public Education Program
- Public Involvement and Participation
- Illicit Discharge Elimination Plan (IDEP)
- Post Construction Stormwater Management for New Development and Redevelopment Projects
- Construction Stormwater Runoff Control
- Pollution Prevention/Good Housekeeping for MDOT Operations

Details on these activities can be found in the appendices at the end of the report.

1.3. Program Assessment

Program assessment is primarily determined by MDOT's adherence to the activities and measurable goals committed to in the SWMP, as well as regular evaluation of stormwater related procedures, training, and programs.

1.4. Summary

During 2018, MDOT worked toward completing the activities laid out in the SWMP. Several of these activities are ongoing and completed each year. Due to time and budget management purposes, activities that are not required to be completed each year are divided between the five years of the permit cycle.

With the updated SWMP, care will be taken to ensure that MDOT's commitments, as written in the SWMP, are fulfilled; however, as the program evolves, modifications may need to be made to the original activity, the measurable goal, or both. Details regarding current activities, measurable goals, and their assessment method are contained in the Appendices.

MDOT will continue to integrate stormwater management awareness across all business areas. Informing and educating MDOT Regions, TSCs, Maintenance Regions, and Garages about the new stormwater permit requirements will be a priority in 2019. Significant changes have been implemented that will impact many design and operational functions of MDOT. MDOT remains committed to allocating the necessary resources to meet the requirements of the Permit meeting environmental regulations for stormwater discharges.

2. Public Education Program

To educate MDOT employees as well as the general and job-related public on stormwater management, MDOT has developed several mediums for which to convey information. MDOT employees have access to information focused on stormwater by utilizing the reference library, various training modules, a pesticide/fertilizer certification course, and stormwater operator staff training. The job-related public is provided with specified information when applying for a permit, such as a tap-in discharge permit.

MDOT has developed several displays and handout materials targeting the general public's various audiences including school-age children and transportation construction. The materials are available, in electronic format, for viewing and downloading from the MDOT Stormwater Public Web Page. In addition, MDOT distributes these materials at various events, as applicable.

The following section presents the seven Public Education Program activities as outlined in the SWMP. Appendix A presents each activity's table, including a description of objectives completed in 2018.

2.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix A. Detailed descriptions of each activity can be referenced in the SWMP.

- Education 1: Stormwater and Watershed Stewardship Reference Library
- Education 2: Stormwater Management Website
- Education 3: Stormwater Management Education Brochures
- Education 4: Educational Materials for Tap-In Discharge Permits
- Education 5: Training Modules
- Education 6: Certify MDOT's Staff for Pesticide/Fertilizer Applications
- Education 7: Staff Training for Part 91 and Stormwater Operators

2.2. Upcoming Monitoring Year Goals

Future monitoring years will include various efforts within the Public Education Program, as presented below:

For Activity Education 1, there will be an effort from 2019-2020 to transfer the existing physical library to an online database on the MDOT stormwater website.

For Activity Education 2, a contact for questions and concerns related to MDOT's stormwater management program was added to the website. This will make it easier for the general public to voice opinions about the program. This activity is closely related to the measurable goal Public Involvement and Participation.

MDOT will begin to review and update educational brochures related to stormwater management in 2019, as described in Activity Education 3. These brochures will continue to be passed out at relevant events, as well.

Activity Education 4 will be a focus for the year 2019 and involves reviewing and updating the educational materials that are distributed along with Tap-In Discharge Permits.

MDOT will continue to review and update the training modules, train staff in pesticide and fertilizer application, and track the number of staff trained under Part 91 and Stormwater Operators as described in Activities Education 5, 6 and 7.

3. Public Involvement and Participation

In addition to providing educational materials to MDOT staff and the public, MDOT is also working to encourage public input in the SWMP and strengthen relationships with other agencies interested in the better management of stormwater. Strategies have been devised to encourage and track comments to the SWMP on the public stormwater website and to pursue relationships with other state and local agencies to further stormwater management practices on various projects. Several activities listed under other minimum measures will also help to achieve the goal of this minimum measure.

The following section presents the three Public Involvement and Participation activities as outlined in the SWMP. Appendix B presents each activity's table, including a description of objectives completed in 2018.

3.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix B. Detailed descriptions of each activity can be referenced in the SWMP.

- Public Involvement 1: Public Comment of SWMP
- Public Involvement 2: Development of Offset Program
- Public Involvement 3: Identify and Coordinate with MPOs Having SWMPs

3.2. Upcoming Monitoring Year Goals

Future monitoring years will include various efforts within Public Involvement & Participation, as presented below.

Under Activity Public Involvement 1, MDOT will finalize the draft of the SWMP using comments from MDEQ. This draft will be posted on MDOT's stormwater website and distributed to all TSCs and Region offices. In addition, a comment forum will be developed so the public can easily submit comments. MDOT will report and respond to public comments on the SWMP and post the final SWMP on the MDOT stormwater website by the end of 2019, pending permit approval.

Activity Public Involvement 2 involves developing a list of organizations for other state agencies, drain commissioners and municipalities to reach out to for offset programs. This will be a focus for 2019.

MDOT will continue to consider watershed and environmental groups input during early coordination of MDOT projects, per the objective of Activity Public Involvement 3.

4. Illicit Discharge Elimination Plan

This annual report assesses the IDEP as one of the six minimum measures stated in the Permit to be reviewed by the MDEQ. The framework for the IDEP activities is outlined in the MDOT SWMP (MDOT, 2016). MDOT's strategies provide for continued identification of illicit discharges and the notification and removal of such connections and discharges.

The following section presents the five IDEP activities as outlined in the SWMP. Appendix C presents each activity's table, including a description of objectives completed in 2018.

4.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix C. Detailed descriptions of each activity can be referenced in the SWMP.

- IDEP 1: Maintain List of Construction Projects and Maintenance Activities
- IDEP 2: Urban Area Outfall Mapping
- IDEP 3: Dry Weather Screening
- IDEP 4: Review Procedure for Receiving and Notifying MDEQ of Illicit Discharges
- IDEP 5: Determining Effectiveness of IDEP

4.2. Upcoming Monitoring Year Goals

Future monitoring years will include various efforts within the IDEP, as presented below.

Under Activity IDEP 1, MDOT will develop an annual list of construction projects and maintenance activities which include work on the drainage system at the end of the fiscal year. This activity will continue to be completed each year of the permit cycle.

MDOT will update any outfall maps as needed throughout the permit cycle, in accordance with Activity IDEP 2. In 2019, MDOT will focus on the development of an identification system for all outfall structures.

The measurable goals under Activity IDEP 3 are a combination of ongoing activities and activities that will be spread between the five-year permit cycle. For example, the first measurable goal of following the illicit discharge procedure for all illicit discharges and connections will be ongoing. The pilot dry weather screening project will be completed over a five-year period. In 2016, the desktop analysis was completed. In years 2017 through 2020, field work and data gathering will be completed. In 2020, the pilot project will be completed, and the program results can be assessed.

For Activity IDEP 4, a review of the procedure for receiving the notice of an illicit discharge shall be reviewed and updated if necessary by the end of 2019.

Per Activity IDEP 5, illicit discharge notices and resolutions have been reported in the 2018 Annual Report. A list of the illicit discharge investigations is available in Activity IDEP 3. This is an ongoing activity and will be done for each year during the permit cycle.

5. Post Construction Stormwater Management for New Development and Redevelopment Projects

MDOT's Post Construction Stormwater Management for New Development and Redevelopment Projects is a measure designed to address post construction stormwater runoff from MDOT projects and procedures for addressing post construction runoff from projects outside of the MDOT right-of-way. These goals will be achieved through structural best management practices (BMPs) designed to remove pollutants and possibly limit runoff rates from MDOT rights-of-way and other facilities.

The following section presents the six activities for Post Construction Stormwater Management for New Development and Redevelopment Projects, as outlined in the SWMP. Appendix D presents each activity's table, including a description of objectives completed in 2018.

5.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix D. Detailed descriptions of each activity can be referenced in the SWMP.

- Post Construction 1: Structural BMP Mapping
- Post Construction 2: BMP Maintenance Requirements
- Post Construction 3: Selection and Application of BMPs
- Post Construction 4: Water Quality and Channel Protection Compliance
- Post Construction 5: TMDL Compliance
- Post Construction 6: Drainage Manual Update
- Post Construction 7: Site Plan Reviews for Projects

5.2. Upcoming Monitoring Year Goals

Future monitoring years will include several efforts within Post Construction Stormwater Management, as presented below.

Under Activity Post Construction 1, MDOT will update the map of all known BMPs in the state at the end of 2018. Furthermore, MDOT plans to develop a means of communicating newly constructed BMPs to the Stormwater Program Manager during 2018.

Per Activity Post Construction 2, MDOT will review the maintenance performance guidelines in 2019. It will be a focus for each year to develop maintenance procedures for new structural BMPs and notify appropriate staff of these procedures.

Under Activity Post Construction 3, MDOT has developed a BMP selection tool which has been distributed to MDOT designers. For 2019, it is a goal to continue to issue staff guidance with the selection tool and focus on developing maintenance procedures for structural BMPs.

Activity Post Construction 4 involves complying with performance standards for water quality and water quantity. The BMP selection tool developed in Activity Post Construction 3 was distributed to MDOT designers and it is a goal for 2019 to continue to test this tool for future projects. Furthermore, for existing structural BMPs, MDOT will continue to document their modification, replacement, or enhancement.

Activity Post Construction 5 includes the review of projects which discharge to water bodies with TMDLs. To comply with this activity, MDOT has developed a BMP selection tool which uses an interactive mapping system showing where MDOT trunklines cross 303(d) listed water bodies. This will make designers aware if their project discharges to a water body with a TMDL that they must meet these requirements. MDOT will continue to review all future projects using this tool.

Activity Post Construction 6 discusses periodically updating the drainage manual. Instead of updating the drainage manual, MDOT has decided to create a supplementary document which discusses post-construction BMP design in further detail. In the upcoming year, 2019, continuing to work on this document will be a focus.

Activity Post Construction 7 outlines the goals of having initial site plans of post-construction stormwater BMPs being reviewed by MDOT stormwater staff. This activity will be a focus for 2019-2020.

6. Construction Stormwater Runoff Control

Per the Permit, MDOT is required to establish and maintain a Soil Erosion and Sedimentation Control program. Appropriate MDOT staff are trained and certified under this program. MDOT continually educates it contractors about its Soil Erosion and Sedimentation Control program (SESC), as well, on a project by project basis using the information discussed at preconstruction meetings.

The following section presents the Construction Stormwater Runoff Control activity as outlined in the SWMP. Appendix E presents the activity table, including a description of objectives completed in 2018.

6.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix E. Detailed descriptions of each activity can be referenced in the SWMP.

- Construction 1: Review of Stormwater Runoff QAQC Protocol

6.2. Upcoming Monitoring Year Goals

The efforts related to Activity Construction 1 will be a focus for 2019. These efforts include reviewing and updating the QAQC protocol for construction stormwater control and issuing staff guidance.

7. Pollution Prevention / Good Housekeeping

The goal of the Pollution Prevention and Good Housekeeping program is to prevent or reduce pollutant runoff from MDOT operations and properties to the MEP. Facilities covered under this measure include: MDOT offices, bridge facilities, maintenance garages, central repair, welcome centers, rest areas, roadside parks and scenic turnouts.

The following section presents the four Pollution Prevention / Good Housekeeping activities as outlined in the SWMP. Appendix F presents each activity's table, including a description of objectives completed in 2018.

7.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix F. Detailed descriptions of each activity can be referenced in the SWMP.

- Pollution Prevention 1: BMP Inspections
- Pollution Prevention 2: PIPP Audits
- Pollution Prevention 3: Maintenance Facility Inspections
- Pollution Prevention 4: Documentation of Road Maintenance Activities

7.2. Upcoming Monitoring Year Goals

The 2019 monitoring year will include several efforts within Pollution Prevention / Good Housekeeping, as presented below.

Under Activity Pollution Prevention 1, 34 BMPS are scheduled for 2019 and 27 are scheduled for 2020. The findings of these inspections will be given to the Stormwater Program Manager and any recommendations will be addressed in the following year. At the end of the five-year permit cycle, each structural BMP will have been inspected.

Activity Pollution Prevention 2 discusses auditing the pollution incident prevention plans every three years. In 2019, a new schedule for this activity will be developed such that this schedule will be met, and audits are scheduled to begin in 2019.

In compliance with Activity Pollution Prevention 3, there will be three MDOT maintenance facilities that will be inspected in 2019, and an additional seven facilities will be inspected in 2020. The findings of these inspections will be given to the Stormwater Program Manager and any recommendations will be addressed. At the end of the five-year permit cycle, each maintenance facility will have been inspected.

The objective for Activity Pollution Prevention 4 is to provide for continued street sweeping and catch basin cleanout, following maintenance performance guidelines.

REFERENCES

MDOT, 2016. Stormwater Management Plan. Michigan Department of Transportation.

Appendix A – Public Education Activities

ACTIVITY EDUCATION 1: CONVERT LANSING INFORMATION CENTER TO WEB-BASED STORMWATER LIBRARY

MONITORING YEAR: 2018

Minimum Control Measure: Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMNISTRATION1: Program Assessment and Reporting · EDUCATION 2: Update MDOT Public Website

OBJECTIVE

Convert the current physical information center to a web-based archive containing stormwater-related materials for training and educating the job-related public including video, reference manuals and publications.

DESCRIPTION

Converting the existing, physical library to an online archive will increase ease of accessibility for MDOT employees and the job-related public. The library is to be comprised of informational materials to support activities performed for the MDOT Stormwater Management Plan.

ANNUAL REPORTING

- Complete conversion from physical to web-based library
- Track the web page traffic and number of content downloads

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
The existing, physical stormwater library housed in Lansing will be converted to an online database, available on the MDOT Stormwater Website.	Materials transferred to the online, public website by year 2020.
Annual Assessment: This activity will be a focus for 2020. Currently, MDOT is correcting issues with the stormwater webpages to bring them in compliance with department standards. This effort will likely run through 2019.	
A list of stormwater-related materials will be updated quarterly on the MDOT Stormwater Public Web Site.	List of updates provided quarterly to the region stormwater and IDEP coordinators
Annual Assessment: Added the 2017 annual report to the MDOT stormwater webpage. Stormwater contacts were updated to reflect staffing changes in 2018.	
Quarterly notices will be made in the Monday Memo to advertise the stormwater-related library material.	Number of “Monday Memo” articles issued relating to the stormwater program.
Annual Assessment: There were no notices posted in the “Monday Memo” regarding webpage updates.	
MDOT Staff to participate in the Southeast Michigan Green Infrastructure (GI) team to share relevant information to the job-related public via the MDOT Stormwater Public Website.	Staff participating in the team will provide materials to be posted on the MDOT Stormwater Public Website to the Aquatic Resource Specialist quarterly
Annual Assessment: MDOT participated with SEMCOG in a domestic scan on national stormwater best management practices. Several other states participated in the scan. MDOT staff participated in several green infrastructure meetings with SEMCOG, attended the Water Resources Task Force meeting, and their climate and flooding study request for proposal. All of these groups are on-going and there hasn’t been any formal results to publish on MDOT’s website.	

ACTIVITY EDUCATION 2: UPDATE WATERSHED STEWARDSHIP INFORMATION ON MDOT PUBLIC WEBSITE

MONITORING YEAR: 2018

Minimum Control Measure : Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • EDUCATION 1: Lansing Information Center Conversion

OBJECTIVE

Information pertaining to watershed stewardship currently available that is pertinent to the general, traveling public will be maintained and kept available for public use and access. Information to be updated quarterly will focus on job-related activities specific to MDOT employees. A comment form will also be developed to provide feedback on the website and available information.

DESCRIPTION

MDOT will update the public information website about the Phase II stormwater program. The website provides general information about watershed stewardship practices as well as links to pertinent stormwater-related materials. This information will be maintained and monitored to report website usage. Updated information will focus on job-related activities relevant to MDOT.

ANNUAL REPORTING

- Track internal and external website traffic
- Track number of SWMP document downloads on the MDOT stormwater public website.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
The MDOT Stormwater Public Web Site will be updated quarterly with the most recent MDOT stormwater information and news relevant to the job-related and traveling public.	Updates to be tracked by the Stormwater Program Manager.
Annual Assessment: The MDOT public stormwater page contacts section was updated in 2018 to reflect changes in staffing that deal with stormwater related issues. It contains current contact information for the stormwater program manager, support staff, as well as the region stormwater and IDEP coordinators.	
A stormwater-related contact will be developed for inclusion on the MDOT Stormwater Public Web Site.	Contact will appear on the MDOT Stormwater Website and be forwarded to the Stormwater Program Manager.
Annual Assessment: See above comment.	
Comments received via contact link will be reviewed and addressed, as necessary. The comments will be archived to track the change in public awareness and behavior resulting from the implementation of the Public Education Program.	Comments will be addressed as necessary as determined by the Technology Manager and the Stormwater Program Manager
Annual Assessment: An email address was created in 2016 to allow for public comment and questions regarding the MDOT stormwater program on the contacts page. One request was received in 2018 seeking permission to copy the brochures on the website.	

ACTIVITY EDUCATION 3: UPDATE STORMWATER MANAGEMENT BROCHURES

MONITORING YEAR: 2018

Minimum Control Measure : Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · EDUCATION 2: MDOT Stormwater Website

OBJECTIVE

Further the public knowledge on stormwater and how MDOT manages stormwater through informative brochures.

DESCRIPTION

Informative brochures currently exist on MDOT's Stormwater website and are also distributed at events such as job fairs and various community outreach events. These brochures will be updated to contain up to date information about stormwater management.

ANNUAL REPORTING

- Track completion of brochure updates
- Track number of downloads from website

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Review and update existing brochures relating to stormwater management.	To be posted on the MDOT stormwater website.
Annual Assessment: This will be a goal for 2019.	
Continue to distribute brochure materials at community events, job fairs, and other relevant events.	To be distributed at various event.

Annual Assessment: These materials are distributed at events, as applicable. Several events MDOT participated in are described, below:

- The Metro Region participated in a public meeting for the I-94 Modernization Project in the summer of 2018. This meeting had tables and booths dedicated to Section 106 and 4F properties/ public spaces and there was a stormwater component included.
- The Alpena TSC in the North Region helped organize and coordinate a litter pick-up on the US-23 with the Alpena south side group.
- The Superior Region assisted the Houghton County Road Commission on estimates for FEMA emergency funding applications due to storm event in the spring of 2018.
- The University Region notified a property owner of improper application of pesticide/herbicide, informed them of the violation, and had them restore the damaged areas.
- The Lansing TSC in the University Region attended Transportation Day at Impression 5 Museum. Staff displayed the interactive stormwater table. There were approximately 1,500 people whom attended the event.
- The Lansing TSC also hosted a "Take your Daughter/Son to Work Day". Staff displayed the interactive stormwater table during the event.

ACTIVITY EDUCATION 4: REVIEW EDUCATION MATERIALS DISTRIBUTED WITH TAP-IN/DISCHARGE PERMIT APPLICATIONS AND UPDATE/DEVELOP TRACKING SYSTEM FOR TAP-IN PERMITS

MONITORING YEAR: 2018

Minimum Control Measure : Education/Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment & Reporting · IDEP 4: Procedure for Receiving & Notifying MDEQ of Illicit Discharges & Actions Taken

OBJECTIVE

Education materials inform applicants of acceptable discharges into the MDOT drainage system, and also of the potential negative impacts to water quality from unacceptable or illegal discharges and ways to mitigate these impacts. A tracking system will enable MDOT to keep better track of those who have tap-in permits.

DESCRIPTION

Preparing education materials for typical development activities connecting to MDOT facilities. Established and implemented procedures for distributing these materials.

ANNUAL REPORTING

· Track quantity of permit applications/educational materials distributed.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Review educational materials included in the tap-in/discharge permit application.	Items that need to be improved, as determined by the review process, will be given to the permit workgroup.
Annual Assessment: This will be a focus for 2019.	
Incorporate review comments into education materials included in the tap-in/discharge permit application.	Updated materials will be distributed to the new permit applicants.
Annual Assessment: This will be a focus for 2019.	
Distribute education materials to 100% of tap-in/discharge permit applicants.	MDOT Permitting Staff to follow up with applicants to ensure information was received.
Annual Assessment: Educational materials were distributed for all tap-in discharge permits in 2018 and will continue to be distributed throughout the permit cycle. There were 38 tap-in discharge permits 2018. The breakdown of these numbers by region are available in the figure on the following page.	
Review the adequacy of the procedure for distributing materials.	MDOT Permitting Staff to meet with MDOT Stormwater Staff to discuss necessary changes to education materials distributed to permit applicants.
Annual Assessment: This will be a focus for 2019 through the end of the permit cycle.	

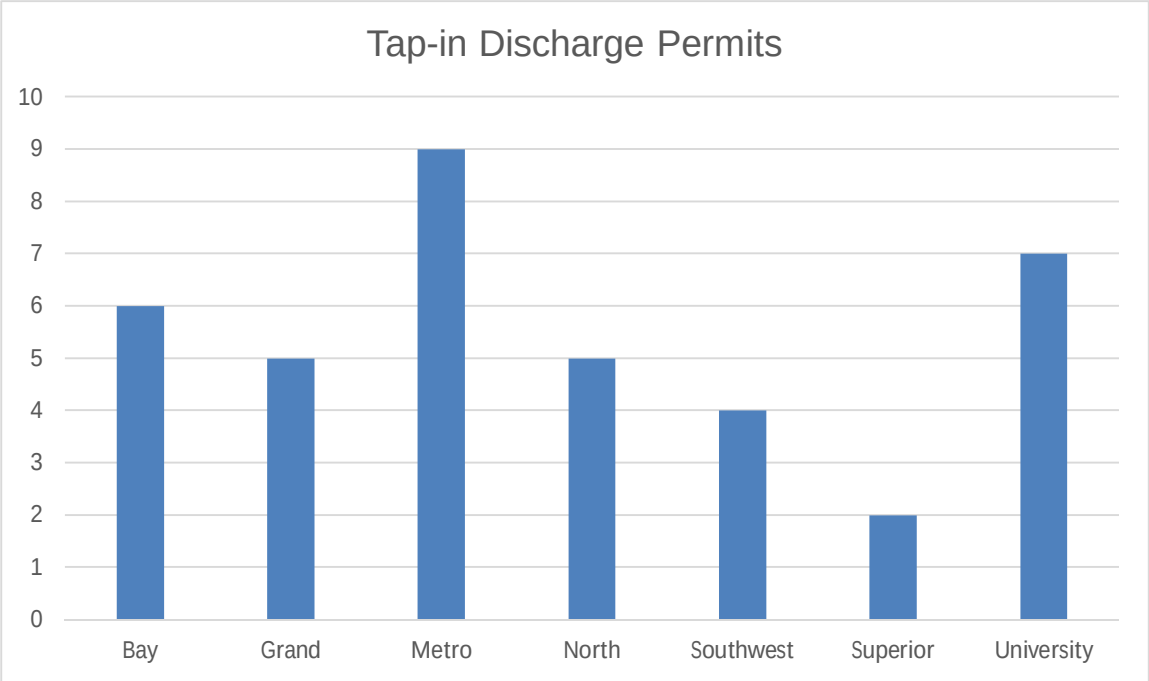


Figure A1 – 2018 Tap-In Permits Issued By Region

ACTIVITY EDUCATION 5: UPDATE EXISTING MODULES AND DEVELOP MS4 TRAINING MODULE FOR DESIGNERS

MONITORING YEAR: 2018

Minimum Control Measure : Training Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting IDEP 4: Notify MDEQ of Illicit Discharges

OBJECTIVE

Educate the job-related public about the Stormwater Management Program, focusing on design.

DESCRIPTION

Use the four 15 minute MDOT stormwater program training modules to train Lansing and Region/TSC staff and contract agencies.

- Module One: Introduction to SW Management
- Module Two: Best Management Practices
- Module Three: Maintenance Considerations
- Module Four: Illicit Discharge & Maintenance
- A new module on MS4's for all MDOT staff

ANNUAL REPORTING

- Track training attendance.
- Track contract agencies receiving modules.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Review and update modules to pertain up to date information relevant for designers. Once updated, modules will be added to the MDOT training database (On-Track) to track individual employee training. Training completion shall be included in employee performance evaluations. The first update will add illicit discharge reporting and notification information to Training Module Four.	Modules to be updated annually and confirmed by the MDOT Stormwater Program Manager
Annual Assessment: In 2016, a Municipal Separate Storm Sewer System (MS4) training module was developed. This module was created as an overview of MS4's, how MDOT complies with MS4 requirements, and guidance for designers on stormwater management. Creating this module was the first step for MDOT in developing updated versions of existing training modules and feedback on this module will be considered in development of these other modules, as well. No additional modules were completed in 2018. Stormwater training was offered at the MDOT development conference, approximately 30 MDOT staff members attended the training.	
Determine specifically who will be trained with the stormwater modules. All new employees shall be trained within the first year. All staff shall be trained once per permit cycle. Maintenance and construction staff with stormwater responsibilities will be trained to follow the illicit discharge notification procedure with the MS4 Training Module.	List of trained employees reported by the MDOT training coordinator to Stormwater Program Manager

Annual Assessment: The MS-4 Training module was completed in December of 2016 and made available on the department's intranet site. As of 2018, 319 unique internal users have accessed the MS-4 Training module with a total of 582 page hits.	
Provide modules to contract agencies and contracting associations with a request to use the modules. Provide information through the Michigan Local Technical Assistance Program (LTAP).	Modules given to contract agencies on an as needed basis.
Annual Assessment: MDOT's stormwater consultant provided a session on the stormwater MDOT BMP screening tool at the Michigan Water Environment Association (MWEA) annual conference.	

ACTIVITY EDUCATION 6: CERTIFY MDOT'S STAFF FOR PESTICIDE/FERTILIZER APPLICATIONS

MONITORING YEAR: 2018

Minimum Control Measure : Training Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting

OBJECTIVE

To reduce pollution entering waters of the state, statewide, that originates from pesticide and/or fertilizer applications.

DESCRIPTION

The existing training and certification program for pesticide/fertilizer applications will be evaluated and tracked to document performance and to prevent stormwater pollution. A turf grass management plan and soil testing for nutrients to determine appropriate fertilizer usage shall be added to the existing training. Results will be used to recommend changes if appropriate.

ANNUAL REPORTING

- Track the number of individuals attending annual pesticide training.
- Track number of MDOT personnel certified as a pesticide applicator.
- Summarize evaluation and review of programs, policies, procedures and information.
- Report changes to fertilizer specifications.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
MDOT Staff applying pesticides will be trained and certified per Michigan Department of Agriculture requirements. Staff are responsible for ensuring their certification is completed every three years and they have appropriate certification documents.	List of trained employees will be provided by the MDOT training coordinator to the Stormwater Program Manager by the TSC Region offices.
Annual Assessment: All MDOT staff that apply fertilizer or pesticides attend a training, which is offered each year. Staff must attend training every three years to maintain their certification. There are a total of 65 MDOT staff members that are certified as pesticide applicators. Furthermore, a total of 85 MDOT employees attended the annual MDOT Vegetation Management Conference in 2018.	
MDOT Staff or Contract Agencies will follow MDOT's Standard Specifications for Construction, Sections 816 and 917 for fertilizer application practices.	Verified by MDOT Stormwater Program Manager.
Annual Assessment: This specification is a focus of the MDOT fertilizer and pesticide application training. In 2018, staff and agencies were in compliance with these specifications.	
Evaluate application practices and pollution prevention measures and recommend and formalize any changes if appropriate.	A task to be completed annually, as checked by the Stormwater Program Manager.
Annual Assessment: No changes to the protocol have been identified by the Environmental Maintenance Team.	

ACTIVITY EDUCATION 7: TRAIN STAFF RESPONSIBLE FOR ADMINISTERING PART 91 AND STORMWATER OPERATORS

MONITORING YEAR: 2018

Minimum Control Measure : Training Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · CONSTRUCTION 1: Review QAQC Protocol for Construction Stormwater Runoff Control

OBJECTIVE

To reduce non-stormwater discharges to the MEP to receiving water bodies.

DESCRIPTION

The existing MDEQ sponsored Soil Erosion and Sedimentation Control (SESC) training program will be attended by appropriate maintenance staff. Successful completion of the training and certification of stormwater operators will be documented.

ANNUAL REPORTING

· Track total number of staff trained and certified for compliance with Part 31 and Part 91 requirements.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
MDOT Staff Responsible for Administering Part 91 and those having Decision Making Authority for SESC Plan Development or Review, Inspections, or Enforcement will receive NPDES training.	The number of trained staff reported annually to the Stormwater Program Manager

Annual Assessment:

Number of MDOT staff trained, by region:

Bay – None reported.
Grand – 22 staff re-certified as stormwater operators, 1 staff attended MSUT Turf School, 8 staff attended Red River annual herbicide applicator training conference, 1 staff attended DEQ Transportation and the Environment Conference
Metro – 16 staff attended SESC/SWO training, 45 staff attended an internally-led hazardous material and waste awareness training at garages and labs which discussed good housekeeping practices for stormwater.
North – 13 staff attended SESC/SWO training, 6 staff earned CEU's for pesticide and herbicide applicators, 32 staff members completed the first year of Hazardous Materials & Waste Awareness training.
Superior – None reported.
Southwest – Multiple employees completed training and/or recertification for Part 91.
University – None reported.

Appendix B – Public Involvement and Participation Activities

ACTIVITY PUBLIC INVOLVEMENT 1: POST STORMWATER MANAGEMENT PLAN (SWMP) ON MDOT'S PUBLIC STORMWATER WEBSITE AND DEVELOP COMMENT FORUM

MONITORING YEAR: 2018

Minimum Control Measure : Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · EDUCATION 1: Convert Lansing Information Center to Web-Based Stormwater Website

OBJECTIVE

To obtain statewide comments from the public on the SWMP.

DESCRIPTION

Establish procedures for the public notice and distribution of the draft SWMP. Provide at least 30 days for public review and comment.

ANNUAL REPORTING

- Track number of public comments
- Track number of downloads of the draft SWMP from MDOT Stormwater website.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Post draft SWMP on MDOT Stormwater Website.	Posted by due date & confirmed by Stormwater Program Manager.
Annual Assessment: Draft will be posted on the MDOT Stormwater Website in the spring/summer of 2019.	
Distribute draft SWMP to all TSCs and Region Offices.	Posted by due date & confirmed by Stormwater Program Manager.
Annual Assessment: The draft is to be distributed to the TSC and Region Offices during the spring/summer of 2019.	
Develop comment forum for general public to comment on publicly posted SWMP.	Posted by due date & confirmed by Stormwater Program Manager.
Annual Assessment: A public comment forum on the MDOT Stormwater Website will be created once the draft SWMP is posted on the MDOT Stormwater Website.	
Distribute SWMP to watershed and environmental organizations listed in **Appendix E** of the SWMP.	Posted by due date & confirmed by Stormwater Program Manager.
Annual Assessment: Once the SWMP is posted on the MDOT Stormwater Website, the organizations listed in **Appendix E** of the SWMP will be notified of its posting.	
Distribute SWMP to planning organizations state-wide that are involved with transportation planning efforts.	Comment on in Annual Report.
Annual Assessment: Once the SWMP is posted on the MDOT Stormwater Website, it will be distributed to these organizations.	

Report and respond to public comments on SWMP.	Relevant comments to be incorporated into final version of SWMP. All comments compiled in SWMP **Appendix F**.
Annual Assessment: As comments on the SWMP are given, they will be documented and responded to through the end of 2019.	
Post final SWMP on MDOT Stormwater Website.	Posted by due date & confirmed by Stormwater Program Manager.
Annual Assessment: The final SWMP will be posted on the MDOT Stormwater Website after receipt of the NPDES permit.	

ACTIVITY PUBLIC INVOLVEMENT 2: DEVELOPMENT OF OFFSET PROGRAM INCLUDING PARTNERING WITH OTHER STATE AGENCIES, DRAIN COMMISSIONERS, AND MUNICIPALITES

MONITORING YEAR: 2018

Minimum Control Measure : Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting

OBJECTIVE

To expand outreach activities and gain partners to better the management of stormwater by adopting existing stormwater management practices in the state of Michigan and for off-site mitigation for redevelopment projects that cannot meet 100 percent of the performance standards.

DESCRIPTION

MDOT will encourage the partnership with other state agencies, drain commissioners and municipalities, as appropriate, in order to better the management of stormwater and maintain the vitality of Michigan's surface waters.

ANNUAL REPORTING

· List of agencies that have agreed to a partnership, or may be interested in the future.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Develop list of organizations to reach out to by November 2019.	List included in Annual Report.
Annual Assessment: This measurable goal will be a focus for the year 2019. This list will be included in the 2019 Annual Report.	
Develop process for establishing partnerships. SEMCOG partnership to be used as a pilot program.	Standard procedure developed & distributed to appropriate persons by Stormwater Program Manager.
Annual Assessment: This measurable goal is a focus for the year 2019 and will be included in the 2019 Annual Report.	

ACTIVITY PUBLIC INVOLVEMENT 3: IDENTIFY AND COORDINATE WITH MPOs HAVING A SWMP

MONITORING YEAR: 2018

Minimum Control Measure : Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · POST CONSTRUCTION 3: Procedure to Select and Apply BMPs · POST CONSTRUCTION 6: Periodically Update Drainage Manual

OBJECTIVE

To identify and coordinate, statewide, with MPOs having stormwater quality control programs to properly handle stormwater management issues during construction and maintenance activities.

DESCRIPTION

Further improve the management of stormwater by collaborating with MPOs during early coordination efforts of MDOT projects. The purpose of these efforts will be to inform and comply with local planning efforts and watershed goals.

ANNUAL REPORTING

- Track the major action environmental documents (environmental assessments and environmental impact statements) distributed to watershed groups for their comments.
- Track responses from watersheds and environmental groups concerning areas of concern.
- Track any early coordination meetings held with watershed and environmental groups including whether groups attend a public meeting or comment on one of the major action documents.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Consider watershed and environmental group input during early coordination of MDOT transportation projects.	In projects identified as impacting 303(d) listed water bodies or other important surface water features, MDOT will coordinate with local watershed and environmental groups.

Annual Assessment: No watershed groups requested information in 2018. Nor correspondence was received from environmental groups regarding stormwater in 2018.

Appendix C – Illicit Discharge Elimination Plan Activities

ACTIVITY IDEP 1: MAINTAIN LIST OF CONSTRUCTION PROJECTS AND MAINTENANCE ACTIVITIES

MONITORING YEAR: 2018

Minimum Control Measure : Illicit Discharge Elimination Program Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · IDEP 2: Update Maps for Outfalls in Urban Area · CONSTRUCTION 1: Review QAQC Protocol for Construction Stormwater Runoff Control

OBJECTIVE

To inform interested persons of construction projects and maintenance activities which will include work on the drainage system.

DESCRIPTION

List of construction projects and maintenance activities available to the public through the MDOT website and documented in the Stormwater Annual Report.

ANNUAL REPORTING

· A list of these projects and activities will be made available on the MDOT website.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Develop a list of construction projects and maintenance activities which include work on the drainage system at the end of the fiscal year.	List to be given quarterly from TSC and Region Managers to the Stormwater Program Manager

Annual Assessment: The MDOT public website contains 3 links that list construction projects in the state. The links cover MDOT's major road projects, the current construction projects, and future projects covered under MDOT's 5 year plan. The current construction projects are also available using the Mi Drive application. The following information is also available on the following pages:

- Maintenance activities completed in 2018, where, in summary:
  - A total of 65,000 bags of litter were collected.
  - Nine (9) BMPs inspected and maintained.
  - A total of 10,591 miles of streets were swept.
  - A total of 21,561 catch basins were cleaned out.
  - A total of 58 catch basins were reported as being repaired.
  - A total of 63,742 ft of ditches were reported as being cleaned out.
  - A total of 290 washouts were reported as being repaired.
  - 350 ft of culverts were reported as being cleaned out.
  - 5,010 ft of drain leads were reported as being cleaned.
- A figure outlining all road repair projects completed in 2018.
- A summary of salt and sand usage for winter maintenance activities.

Table 1. Litter Pick-Up Programs

Region	*Litter Pick-Up Programs*
Bay	· **732 pick-up events**
Grand	· **Muskegon, Kent counties utilized prison crews. Kent County a four Sponsor-A-Highway program sites in which litter was picked up monthly.** · **All counties utilized Adopt-A-Highway (3 pick-ups). Continued recycling program at Rockford Rest Area.** · **Recyclables (clean paper and plastic) is picked up at the rest area weekly and is taken to the recycling center in Rockford, Michigan.**
Metro	· **Averaged 3 litter pick-ups for each route/freeway performed under mowing contract.** · **Averaged 3 litter pick-ups at various locations for each route/freeway performed under Adopt-A-Highway** · **12 litter pick-ups at various locations for each route/freeway performed under Sponsor-A-Highway.**
North	· **Adopt-A-Highway program had 3 standard Adopt—Highway pick-ups throughout the year.**
Southwest	· **The Southwest Region held 3 Adopt-A-Highway periods in 2018.**
Superior	· **71 Adopt-A-Highway pick-up events.**
University	· **12 Adopt-A-Highway pick-up events** · **47 maintenance personnel litter pick-up events.** · **499 bags of litter were collected by region Youth Development and Mentoring (YDMP) crews.**

Table 2. BMP Maintenance Activities

Region	*BMP Maintenance Activities*
Bay	**None reported.**
Grand	**None reported.**
Metro	**None reported.**
North	**Five (5) detention basins, two (2) infiltration basins, and two (2) retention basins were inspected and maintained.**
Southwest	**None reported.**
Superior	**None reported.**
University	**None reported.**

Table 3. Miscellaneous Maintenance Activities for 2018

Region	*Street Sweeping (miles)*	*Clean Basin Cleanout (#)*	*Catch Basins Repaired (#)*	*Ditch Cleanout (ft)*	*Washout Repairs (#)*	*Culvert Cleanout (ft)*	*Drain Leads Cleaned (ft)*
Bay	1,126.5	5,751	26	10,942	17	-	-
*Grand**	691	2,115	12	-	152	350	-
Metro	7,839	5,329	-	52,800	39	-	5,010
North	145**	2,990	20	-	2	-	-
Southwest	446	250	-	-	79	-	-
Superior	142.6	1,443	-	***	***	***	***
University	200.9	3,683	-	-	1	-	-

***Youth Development Corps cleaned out bridge drains, edge drains, and culvert ends throughout Lake, Osceola, and Mason Counties.**

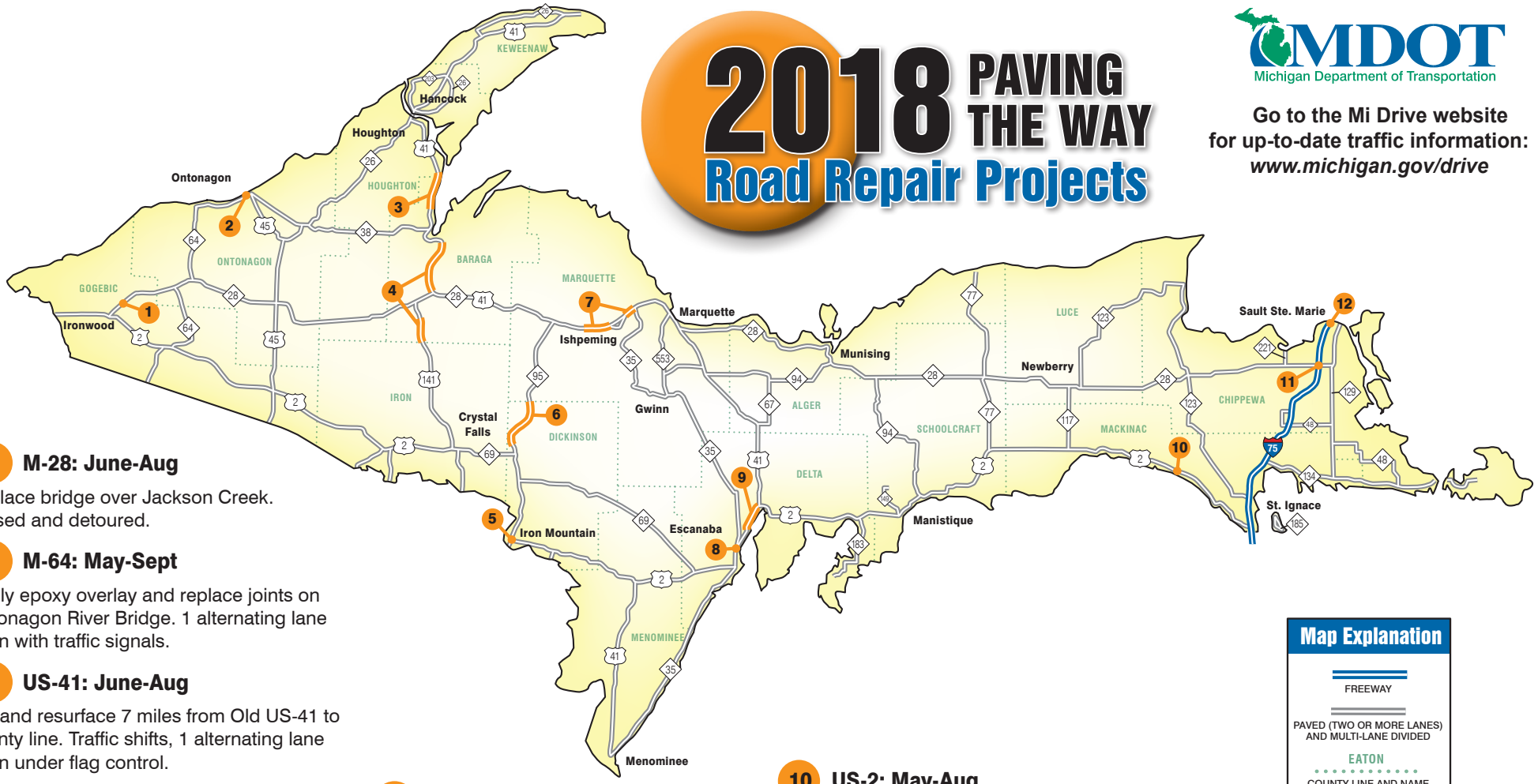
****Additionally, each bridge in the Gaylord TSC service area is swept once a year and each trunkline that passes through a city or village is swept twice per year.**

*****Multiple washout repairs, ditch cleanouts, culvert cleanouts, debris removals, slope stabilization, and storm sewer cleanouts were completed due to spring flooding event. The total for these services was approximately $8, 00,000.**

2018 PAVING THE WAY
Road Repair Projects

MDOT
Michigan Department of Transportation

Go to the Mi Drive website for up-to-date traffic information: *www.michigan.gov/drive*



1 M-28: June-Aug

Replace bridge over Jackson Creek. Closed and detoured.

2 M-64: May-Sept

Apply epoxy overlay and replace joints on Ontonagon River Bridge. 1 alternating lane open with traffic signals.

3 US-41: June-Aug

Mill and resurface 7 miles from Old US-41 to county line. Traffic shifts, 1 alternating lane open under flag control.

4 US-41/US-141: June-Aug

Resurface 11.3 miles of US-41 from M-28 to Mead Rd and US-141 from county line north 4.5 miles. 1 alternating lane open under flag control.

5 US-2/US-141: May-Sept

Reconstruct intersection. 1 lane open in each direction, short-term US-141 detour.

6 M-95: May-Aug

Reconstruct 9.5 miles from Channing to county line. 1 lane open in each direction during non-work hours. 1 alternating lane open under flag control during work hours.

7 US-41/M-28: June-Sept

Mill and resurface 1.5 miles from Water St to Malton Rd and 3 miles from Second St to west of Westwood Dr. 1 lane open in each direction.

8 US-2/US-41/M-35: Jan-Sept

Second year of 2-year project. Replace US-2 bridge over Escanaba River. 1 lane open in each direction, 1 daytime detour.

9 US-2: June-Sept

Reconstruct 5.5 miles westbound lanes from Gladstone to Rapid River. 1 lane open in each direction on eastbound side.

10 US-2: May-Aug

Repair steel, paint and replace joints on Cut River Bridge. Closed and detoured.

11 M-28: May-Nov

Reconstruct 0.4 miles and reconstruct ramp terminals at I-75 interchange. 1 alternating lane open with traffic signal.

12 I-75 BS: May-Nov

First year of 2-year project. Reconstruct 2.2 miles from 3 Mile Rd ramp to 10th Ave, construct roundabout at Mackinac Trail intersection. 1 lane open in each direction or 1 alternating lane open. Minor overnight detours.

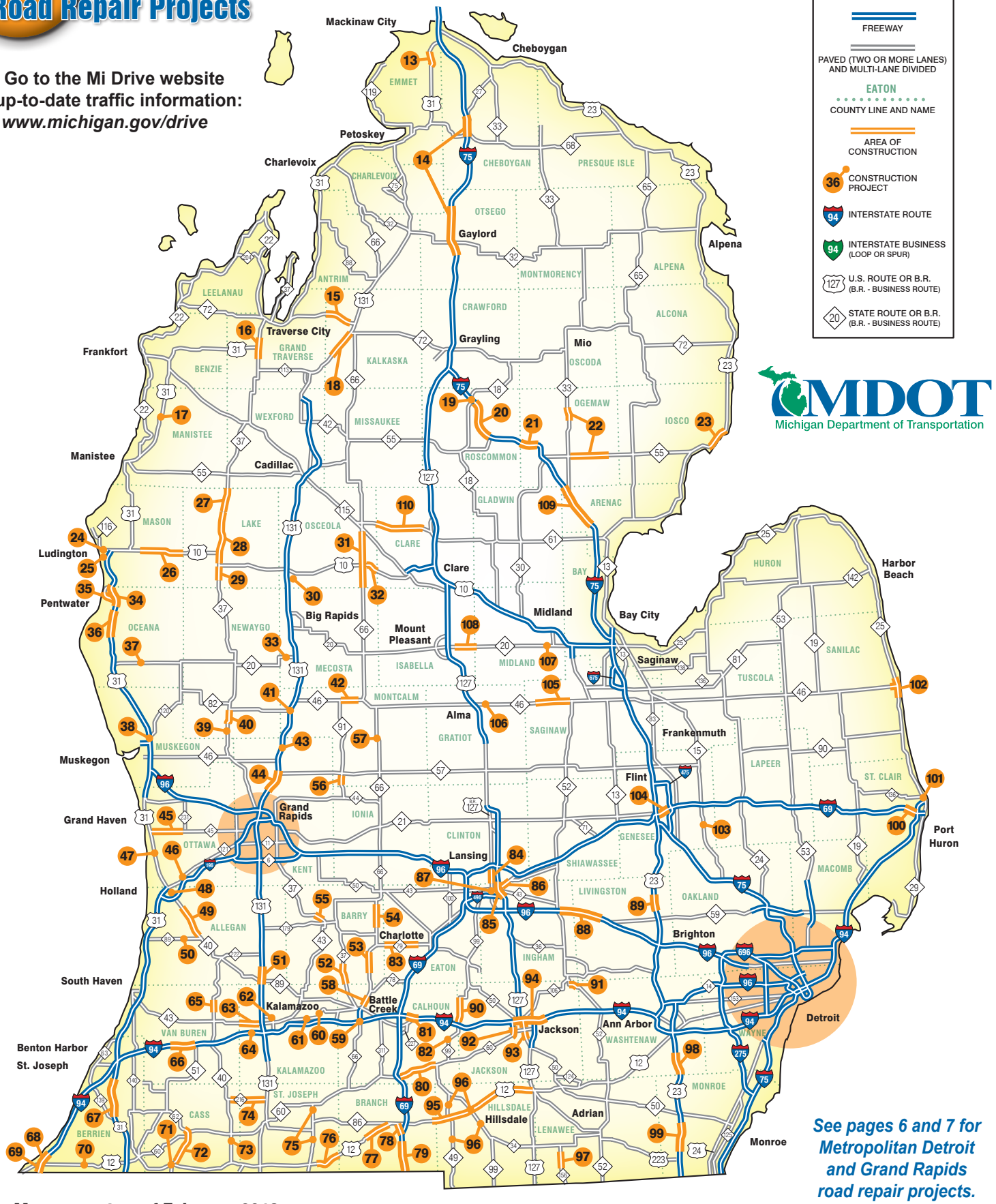
Map Explanation

- FREEWAY
- PAVED (TWO OR MORE LANES) AND MULTI-LANE DIVIDED
- EATON — COUNTY LINE AND NAME
- AREA OF CONSTRUCTION
- 36 — CONSTRUCTION PROJECT
- 94 — INTERSTATE ROUTE
- 94 — INTERSTATE BUSINESS (LOOP OR SPUR)
- 127 — U.S. ROUTE OR B.R. (B.R. - BUSINESS ROUTE)
- 20 — STATE ROUTE OR B.R. (B.R. - BUSINESS ROUTE)

Map current as of February 2018.

2018 PAVING THE WAY
Road Repair Projects

Go to the Mi Drive website for up-to-date traffic information:
www.michigan.gov/drive



Map Explanation

- FREEWAY
- PAVED (TWO OR MORE LANES) AND MULTI-LANE DIVIDED
- EATON — COUNTY LINE AND NAME
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- 20 — STATE ROUTE OR B.R. (B.R. - BUSINESS ROUTE)

MDOT
Michigan Department of Transportation

See pages 6 and 7 for Metropolitan Detroit and Grand Rapids road repair projects.

Map current as of February 2018.

13 US-31: June-July

Resurface 4 miles from south of East Levering Rd to south of Munger Rd. 1 lane open under flag control.

14 I-75: Apr-Aug

Resurface 12.5 miles from I-75 BL to Sturgeon Valley Rd and from M-68 to North Central State Trail.

15 M-72: Apr-Nov

Reconstruct and resurface 7.7 miles from Baggs Rd to Kalkaska Rd. Traffic shifts, 1 lane open under flag control.

16 M-37: Aug

Resurface 2 miles from Vance Rd to north of Chums Corner. Traffic shifts and night work.

17 US-31: Mar-May

Stabilize roadway at Bear Lake. 1 lane open with temporary traffic signal.

18 US-131: May-Aug

Resurface 7.3 miles from Boardman Rd to M-72/M-66 junction. Traffic shifts, 1 lane open under flag control.

19 M-18: Apr-Nov

Repair bridge over I-75. M-18: temporary traffic signal. I-75: 1-lane closures.

20 I-75: July-Oct

Resurface 12.7 miles from Maple Valley Rd to north of M-18/I-75 BL. 1-lane and shoulder closures.

21 I-75: May-July

Diamond grind 4.1 miles northbound lanes from Ski Park Rd to county line. Lane closures with traffic shifts.

22 M-55/M-33: June-Aug

M-55: resurface 7.9 miles from east of M-33 to Beach Rd. M-33: resurface 1.9 miles from north of Rose City to north of Oyster Rd. 1 lane open under flag control.

23 US-23: Apr-Oct

Reconstruct 5.7 miles from north of Tawas Beach Rd to south of Kirkland Dr. 1 lane open under flag control.

24 US-10: Apr-May

Resurface and upgrade sidewalks 0.9 miles from Rowe St to Jackson St. Daytime work, 1 lane open in each direction.

25 US-31 BR (Pere Marquette Hwy): July-Aug

Resurface and chip seal 3.2 miles from US-31 to US-10. Daytime work only, 1 alternating lane open under flag control.

26 US-10: May-July

Resurface 8.6 miles from Custer east village limit to county line. Daytime work only, 1 alternating lane open under flag control.

27 M-37: Sept-Oct

Resurface 6.4 miles from 7 Mile Rd to county line. Daytime work only, 1 alternating lane open under flag control.

28 M-37: June-July

Chip seal 12.5 miles from 44th St to 7 Mile Rd. Daytime work only, 1 alternating lane open under flag control.

29 M-37: Apr-June

Resurface 0.9 miles from 3rd St to US-10. Daytime work only, 1 alternating lane open under flag control.

30 US-10 BR (Chestnut St): June-Aug

Resurface 1 mile from Church St to US-10. Traffic shifts, detours and 1 alternating lane open under flag control.

31 M-66: May-June

Chip seal 15.1 miles from county line to M-115. Daytime work only, 1 alternating lane open under flag control.

32 US-10: Oct

Resurface 3.3 miles from M-66 to county line. Daytime work only, 1 alternating lane open under flag control.

33 M-20: Sept-Oct

Improve bridge over Muskegon River. Traffic shifts with 1 alternating lane open under signal control.

34 US-31: Sept-Nov

Resurface 3.7 miles from Pentwater River north branch to county line. Daytime work only, 1 lane open in each direction.

35 US-31 BR (Monroe St/6th St): Sept-Oct

Resurface 2.9 miles from US-31 to Wythe St. Daytime work, 1 alternating lane open under flag control.

36 US-31: May-Oct

Resurface 5 miles from Shelby Rd to Polk Rd. 1 lane open in each direction, intermittent ramp closures.

37 M-20: July-Aug

Replace culvert over Gillon Lake Drain. Closed and detoured.

38 US-31: June-Nov

Improve bridge over Muskegon River. Daytime work only, lane closures. 2 lanes open Memorial Day - Labor Day.

39 M-37: June-Aug

Reconstruct 0.4 miles and improve drainage from Lee St to State St. 1 southbound lane open, northbound lanes closed and detoured.

40 M-37: Sept-Oct

Resurface 5 miles from State Rd to M-82. Daytime work only, 1 alternating lane open under flag control.

41 M-82: Apr-Oct

Improve bridges over US-131. M-82: intermittent traffic shifts and detours. US-131: at least 1 lane open.

42 M-46: Sept-Oct

Resurface 5 miles from M-91 to Miles Rd. Daytime work only, 1 alternating lane open under flag control.

43 US-131: Mar-June

Improve bridge over Cedar Springs Ave. Daytime work only, 1 lane open in each direction. Cedar Springs Rd: 2-way traffic with temporary signals.

44 US-131: Mar-Oct

Reconstruct 4.3 miles from 10 Mile Rd to 14 Mile Rd. Weekday mornings and Sundays: 1 northbound and 2 southbound lanes open. Weekday afternoons and Fridays: 1 southbound and 2 northbound lanes open.

45 M-45 (Lake Michigan Dr): Apr-June

Resurface 4.7 miles from US-31 to M-231. Daytime work only, 1 alternating lane open under flag control.

46 I-196 BL: July-Oct

Reconstruct 0.8 miles from 88th Ave to I-196. 1 lane open in each direction. Main St, M-121 (Chicago Dr), and westbound I-196 ramp to Byron Rd closed and detoured for approximately 3 weeks.

See pages 6 and 7 for Metropolitan Detroit and Grand Rapids road repair projects.

47 US-31: Apr-June

Construct indirect left-turn lanes at Barry St. Daytime work, 1 lane open in each direction.

48 M-40: May-July

Resurface 0.4 miles and realign 64th Ave intersection. Daytime work, 1-lane closures. 64th St closed and detoured during portions of project.

49 M-40: Mar-Nov

Resurface 8.3 miles from 124th Ave to 136th Ave, plus widen from 2 to 3 lanes in front of elementary school. Daytime work only, 1 alternating lane open under flag control.

50 M-89: May-Aug

Replace bridge over Kalamazoo River. Daytime work only, 2-way traffic maintained at all times with temporary signals.

51 US-131: Sept-Oct

Repair concrete joints 1.7 miles from south of 102nd Ave to Grand Elk Railroad. Weekday work only, 1 lane open in each direction. Ramp closures at M-89 on weekends.

52 M-37: May-June

Chip seal 5.5 miles from county line to Groat Rd. Daytime work only, 1 alternating lane open under flag control.

53 M-66: Sept

Resurface 4.8 miles from Cox Rd to Assyria Rd. Daytime work only, 1 alternating lane open under flag control.

54 M-66: Aug

Resurface 4.5 miles from Nashville north village limit to Coats Grove Rd. Daytime work only, 1 alternating lane open under flag control.

55 M-37: June-July

Resurface 2.7 miles from Heath Rd to Golden Ln. Daytime work only, 1 alternating lane open under flag control.

56 M-91: July-Aug

Resurface 2.3 miles from Snows Lake Rd to Sunnyside Ct. Daytime work only, 1 alternating lane open under flag control.

57 M-66: July-Sept

Resurface 1.2 miles from Walnut St to Cedar St. Daytime work only, 1 alternating lane open under flag control.

58 M-66: May-Aug

Resurface 2.6 miles from Frey Dr to Capital Ave/Division St. Convert from 4 to 3 lanes. 1 lane open in each direction.

59 I-194: June-Sept

Repair bridge over I-94. I-194: 1 lane open in each direction. I-94: intermittent night lane closures. Intermittent ramp closures at I-94/I-194 interchange.

60 M-96: May-June

Construct right-turn lane at G Ave. 1 lane open under flag control.

61 M-96: Apr-May

Construct left-turn lane at 33rd St. Lane shifts.

62 US-131 BR (Westnedge Ave/ Park St): Apr-Sept

Upgrade sidewalk ramps, resurface 2.5 miles from I-94 BL (West Michigan Ave) to Hopkins St. Lane closures and traffic shifts.

63 M-43: Aug-Oct

Resurface 5 miles from county line to US-131. 1-lane closures.

64 I-94: Aug-Nov

Repair 9th St bridge over I-94. I-94: nighttime lane closures. 9th St: lane closures and traffic shifts. 9th St ramp to westbound I-94 detoured.

65 M-40: Aug-Oct

Resurface 1 mile from south to north Gobles city limits. 1-lane closures.

66 I-94: Mar-Sept

Repave and reconstruct 5.8 miles eastbound lanes from 56th St to M-51. Shoulder/lane closures with traffic shifts.

67 US-31: Apr-June

Seal cracks and joints 8.6 miles southbound lanes from Napier Ave to M-139. 1-lane closures.

68 I-94: Mar-Sept

Repair bridges at M-239, Kruger Rd, Lakeside Rd, and Union Pier Rd, plus Maudlin Rd over I-94. I-94: shoulder and lane closures with traffic shifts. M-239: temporary traffic signal. Kruger Rd, Lakeside Rd, and Maudlin Rd: detours. Union Pier Rd: temporary traffic signal.

69 I-94: Sept-Nov

Resurface 3.2 miles from M-239 to Kruger Rd. 1- and 2-lane closures.

70 US-12: May-July

Repair bridge over Galien River. Temporary traffic signal.

71 US-12: July-Oct

Upgrade sidewalk ramps, resurface 0.9 miles from west Edwardsburg village limit to east of M-62. 1 lane open under flag control. Detour in Aug.

72 M-62: Apr-May

Resurface 9.5 miles from north of US-12 to north of Hilton St. 1 lane open under flag control.

73 M-40: Aug-Sept

Improve drainage, resurface 0.1 mile from Prang St to Bair Lake Rd. Detour.

74 M-216: July-Aug

Resurface 10.2 miles from M-40 to US-131. 1 lane open under flag control.

75 M-66: May-Nov

Repair bridges over St. Joseph River and Prairie River. 1 lane open with temporary traffic signals.

76 US-12: May-July

Resurface 5.9 miles from Franks Ave to St. Joseph Rd. 1 lane open under flag control.

77 US-12: May-July

Resurface 9.9 miles from Bronson to Coldwater, remove Indiana Northeastern Railroad bridge west of Coldwater. Closed during bridge removal, traffic detoured on Snow Prairie Rd and M-86. 1 lane open under flag control during resurfacing.

78 I-69 BL: Aug-Oct

Resurface 3.5 miles from Fenn Rd to Clay St, convert from 4 to 3 lanes. 4-lane section: 1 lane open in each direction. 2-lane section: 1 lane open under flag control.

79 I-69: June-Aug

Repair concrete 7 miles north from state line. 1 lane open in each direction.

80 M-60: Aug-Sept

Resurface 8.5 miles between Homer and Tekonsha. 1 lane open under flag control.

See pages 6 and 7 for Metropolitan Detroit and Grand Rapids road repair projects.

81 I-94: May-Oct

Resurface 5.4 miles westbound lanes from 17 1/2 Mile Rd to 21 1/2 Mile Rd. 2 lanes open in each direction during daytime. 1 lane open in each direction overnight.

82 M-99: May-July

Repair and install new brick pavement from Vine St to Ash St. M-99 detour: Irwin Ave, Eaton St, and Austin Ave. M-99/I-94 BR (Michigan Ave) detour: I-94, Eaton St, and Austin Ave.

83 M-79: Aug-Nov

Resurface 13 miles between M-66 and High St. 1 lane open under flag control.

84 Old US-27: June-Sept

Resurface 1.5 miles between Northcrest Dr and Clark Rd, install a center turn lane at Stoll Rd. 1 lane open in each direction.

85 US-127: June-July

Install 3.1 miles of median cable barrier and guardrail between I-496 and county line. Shoulder closures.

86 I-69 BL (Saginaw Hwy): May-Sept

Resurface 2 miles between Coolidge Rd and Hagadorn Rd, plus ADA upgrades. At least 1 lane open in each direction.

87 Michigan Ave: June-Aug

Repair bridge over the Grand River. Detour posted. 1 direction detoured at a time.

88 I-96: Apr-Nov

Resurface 14 miles between M-52 and M-59, install median cable barrier. 1 lane closed at night. Ramp closures. 1 lane closed 1 direction at a time over 4 weekends (by early July).

89 US-23: May-Sept

Resurface 1 mile between Crouse Rd and Clyde Rd. 1 lane closed in each direction at night.

90 M-99: July-Aug

Chip seal 8 miles from I-94 to Willow St. 1 lane open with flag control.

91 M-52: July-Aug

Resurface 3.9 miles from M-106 to county line. 1 lane open with flag control.

92 M-60: May-June

Resurface 3.4 miles from I-94 to Renfrew Dr. 1 lane open in each direction.

93 M-50/US-127 BR: Apr-June

Repair pavement 1.6 miles from Washington Ave to South St. 1 lane open in each direction.

94 I-94/M-106: June 2018-Dec 2019

I-94: repair pavement between M-60 and Sargent Rd; replace bridges at Cooper St and over the Grand River. 2 lanes open in each direction during daytime. 1 lane closed at off-peak times. M-106: resurface from Porter St to Ganson St. Flag control.

95 US-12: Apr-Oct

Resurface 27.2 miles between US-127 and Quincy (excluding Jonesville). 1 lane open under flag control.

96 M-49/M-99: June-Aug

Repair various railroad crossings. Short-term detours and lane closures.

97 M-156: May-June

Resurface 4.7 miles from Park Dr to Brown Rd. Lane closures with flag control.

98 US-23: May-Sept

Resurface 5.7 miles between Milan and Bemis Rd. 1 lane closed in each direction at night.

99 US-23: May-Sept

Repair pavement 3.7 miles between Ida Center Rd and School St. 1 lane closed in each direction at night.

100 I-69: July-Sept

Resurface 3.8 miles from Taylor Rd to Range Rd. Traffic shift with lane closures.

101 M-25: Apr-June

Replace bridge beam at Howe Drain. Traffic detoured starting early May followed by lane shifts.

102 M-46/M-25: Mar-Aug

M-46: resurface 0.5 miles and improve drainage between Whitney Dr and M-25. Detoured Mar-June. M-25: resurface 4.5 miles, improve drainage and remove traffic signal between French Line Rd and Orchard Ln. Traffic shifts and flag control.

103 M-15: June-Aug

Construct and extend center left-turn lane and resurface 0.6 miles from Bristol Rd to Kitchen Rd. 1 alternating lane open under flag control.

104 I-69: Mar-Nov

Reconstruct 3 miles from east of Ballenger Hwy to Fenton Rd, including ramps and repairs to Hammerburg Rd overpass. Traffic shifts and lane closures.

105 M-46: Apr-Oct

Reconstruct 10.5 miles, improve drainage and replace 6 culverts from west of Merrill to M-52. 1 alternating lane open under flag control during road work, traffic detoured during culvert replacement.

106 M-46: Apr-Aug

Construct center left-turn lane and resurface 0.8 miles from Hidden Oaks Dr to Pine River. 1 alternating lane open under flag control.

107 M-20: Feb 2018-July 2019

Reconstruct bridge over Tittabawassee River. Traffic shifts and lane closures.

108 M-20: July-Sept

Resurface 6 miles from Loomis Rd to Geneva Rd. Traffic shifts and lane closures.

109 I-75: May-July

Resurface 13 miles southbound lanes from Lincoln Rd to county line. Traffic shifts with lane closures.

110 M-61: July-Aug

Resurface 14 miles from Clareola Rd to Westlawn St. 1 alternating lane open under flag control.

See pages 6 and 7 for Metropolitan Detroit and Grand Rapids road repair projects.

111 I-75 BL (Perry St): Apr-Oct

Repair concrete and resurface 5 miles from M-1 (Woodward Ave) to Harmon Rd. 1 lane open in each direction.

112 M-59: Aug 2018-2019

Install intelligent transportation system equipment from Paddock St to M-53. Lane closures.

113 M-59 (Hall Rd): Mar-Sept

Reconstruct 1.2 miles, add left-turn lane and repair bridges from just west of Garfield Rd to just east of Romeo Plank Rd. Lane closures nights and weekends. 3 lanes open at peak times.

114 US-24 (Telegraph Rd): Aug-Oct

Construct 6 pedestrian refuge islands between James K Blvd and M-59 (Huron St). 1 lane closed in each direction.

115 I-75: July 2018-2020

Reconstruct and widen 9 miles from north of 13 Mile Rd to Coolidge Hwy. 2 lanes open in each direction via traffic shift.

116 M-5: Jan-Aug

Construct pedestrian bridge over M-5 between Maple Rd and Pontiac Trail. Nightly lane closures. Closed 2 weekends 1 direction at a time.

117 I-696: Apr-Nov

Major repair 17.5 miles from I-75 to I-275. Open daytime, 1 lane open weeknights, segments closed over 10 weekends.

118 I-696: Apr-Nov

Reconstruct 8.3 miles from I-94 to I-75. Westbound lanes closed with eastbound lanes open via traffic shift.

119 M-1: Mar-Aug

Repair concrete 2.5 miles from 14 Mile Rd to Big Beaver Rd. 1 lane closed at all times, 2 lanes closed nightly. 3 lanes closed over 4 weekends.

120 M-3: Aug-Oct

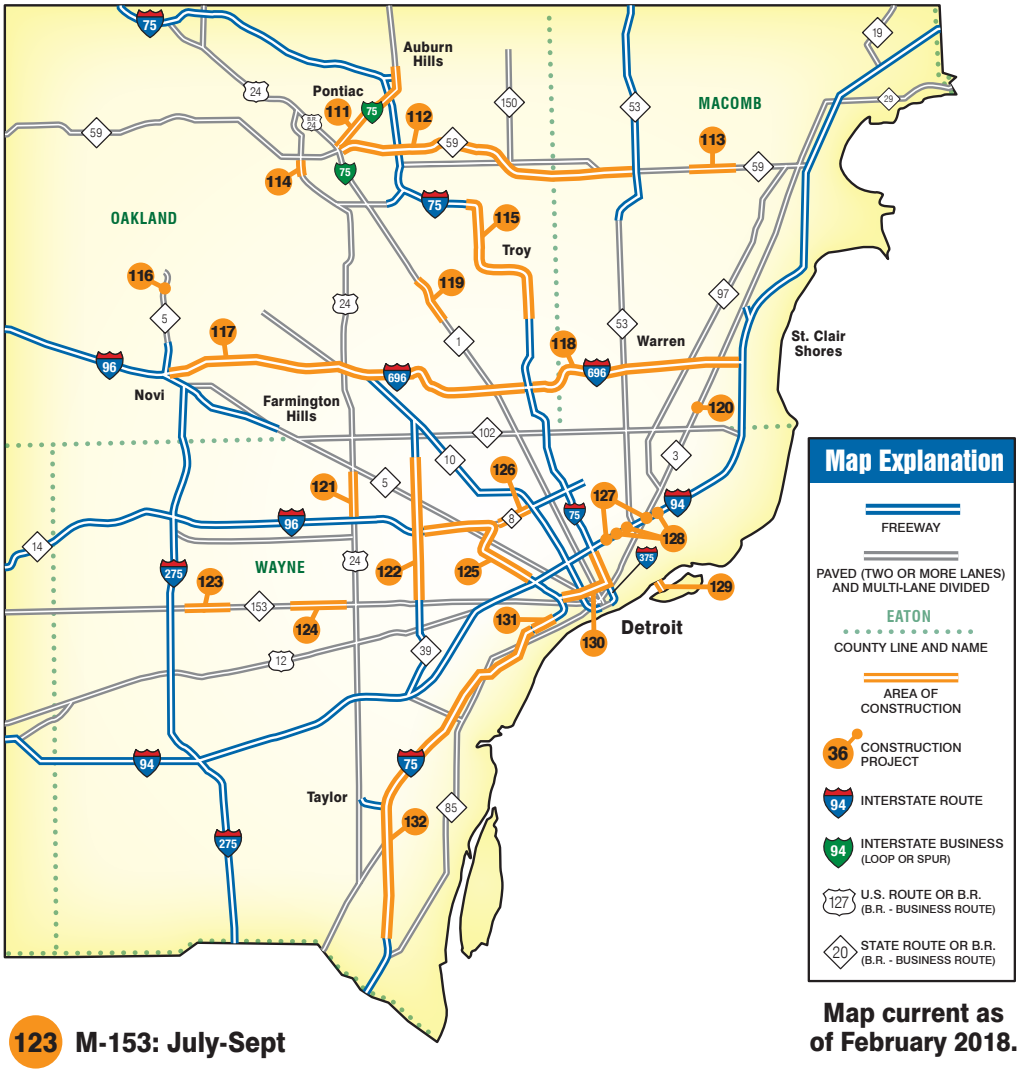
Construct median pedestrian island at 9 Mile Rd. Lane closures with 2 lanes open in each direction.

121 US-24: Apr-July

Mill and resurface from I-96 to Grand River Ave. 1 lane closed. 2 lanes closed middays and nights. 3 lanes closed for 3 weekends.

122 M-39: July-Nov

Mill and resurface from M-153 to McNichols Rd. 2 lanes closed in each direction nights and 4 weekends. 1 lane and ramps closed nights and weekends.



Map current as of February 2018.

123 M-153: July-Sept

Mill and resurface from Lotz Rd to Wayne Rd. Lane closures.

124 M-153: Apr-June

Mill and resurface 1.8 miles from Fairwood Dr to Vernon Rd. 2 lanes closed middays and nights.

125 I-96: May-July

Mill and resurface from I-94 to M-39. Express lanes closed in each direction 2 weekends. Night and weekend lane closures.

126 M-8: Jan-Sept

Upgrade traffic signals and pedestrian crossings from I-96 to M-10. 1 lane closed middays.

127 I-94: Jan-Nov

Replace bridges at Chene St and Gratiot Ave. Remove 3 pedestrian bridges. I-94 closed 4 weekends. Nightly lane closures. Traffic shifts during peak travel times.

128 I-94: May 2018-Nov 2019

Replace bridges at Concord Ave, French Rd, and Mt. Elliott St. I-94 closed 4 weekends in 2018. Nightly lane closures. Traffic shifts during peak travel times.

129 Grand Ave: Jan-Nov

Repair Douglas MacArthur Bridge. 1 lane closed spring and fall, plus summer weekdays. 2 lanes open each direction summer weekends.

130 I-75: Mar-Aug

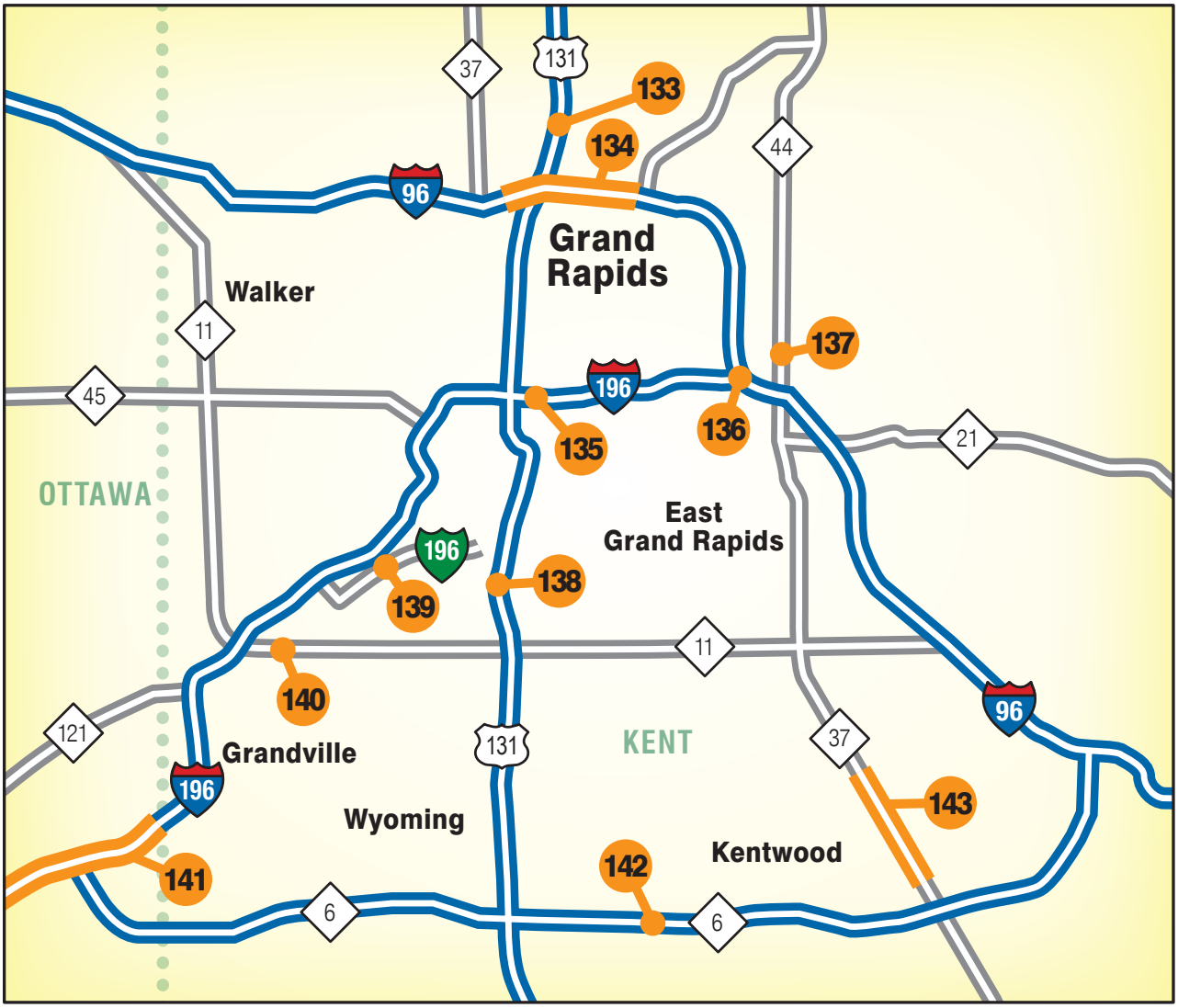
Repair bridges at 14th St, Trumbull Ave, M-3, I-375, Warren Ave, and I-94. Daily and nightly lane closures, nightly and weekend ramp closures.

131 I-75: 2017-Nov 2018

Concrete and sewer work between Clark Ave and Springwells St. 1 southbound lane open, intermittent northbound lane closures.

132 I-75: 2017-Dec 2018

Bridge work 17 miles between Springwells St and Gibraltar Rd, including Rouge River, Goddard Rd, Northline Rd, Allen Rd, and Eureka Rd. Southbound lanes closed from Springwells St to US-24 connector. Northbound lanes closed nightly and weekends, at least 2 lanes open during peak periods. 1 northbound lane closed from Sibley Rd to Northline Rd.



Map Explanation

- FREEWAY
- PAVED (TWO OR MORE LANES) AND MULTI-LANE DIVIDED
- EATON — COUNTY LINE AND NAME
- AREA OF CONSTRUCTION
- 36 — CONSTRUCTION PROJECT
- 94 — INTERSTATE ROUTE
- 94 — INTERSTATE BUSINESS (LOOP OR SPUR)
- 127 — U.S. ROUTE OR B.R. (B.R. - BUSINESS ROUTE)
- 20 — STATE ROUTE OR B.R. (B.R. - BUSINESS ROUTE)

Map current as of February 2018.

133 US-131: Aug

Improve northbound bridge over 6 Mile Rd. US-131: traffic shift. 6 Mile Rd: closed and detoured.

134 I-96: Mar-Oct

Reconstruct from West River Dr to the Grand River. Improve bridges over US-131, West River Dr, the Grand River, Coit Ave, and Monroe Ave. Widen and extend Plainfield Ave ramp to westbound I-96. Eastbound I-96: closed and detoured Apr-June. Westbound I-96: closed and detoured June-Aug.

135 I-196: Jan 2017-Nov 2019

Improve bridge and widen westbound structure over the Grand River. Off-peak lane and shoulder closures on I-196. Off-peak closures on southbound US-131 ramp to eastbound I-196.

136 I-96: July 2018-Nov 2019

Construct new eastbound bridge over westbound I-196. Lane and shoulder closures on I-96 and I-196.

137 M-44 (East Beltline Ave): Sept-Nov

Extend northbound dual left-turn lanes at Leonard St. Nighttime work only, 1 lane closed.

138 US-131: Jan-May

Improve bridge over Plaster Creek. Northbound and southbound lanes closed and detoured for 1 weekend each.

139 I-196 BS (Chicago Dr): Sept-Oct

Reconstruct CSX Railroad crossing. 1 lane open in each direction.

140 M-11 (28th St): Sept-Oct

Improve bridge over CSX Railroad and Chicago Dr. Daytime work, 1 lane closed.

141 I-196: Aug-Oct

Construct temporary median crossovers from 32nd Ave to county line. Daytime work, 1 lane open in each direction.

142 M-6: Sept-Dec

Install freeway lighting at Kalamazoo Ave interchange. Daytime work only, lane and shoulder closures.

143 M-37: Sept-Nov

Repair concrete joints 2.2 miles from Patterson Ave to 44th St. 1 lane open in each direction.

MDOT Michigan Department of Transportation

Go to the Mi Drive website for up-to-date traffic information:
www.michigan.gov/drive

STATEWIDE SUMMARY : FY 2018 County & Garage Winter Material Usage

May Report

Statwide Statistics YTD

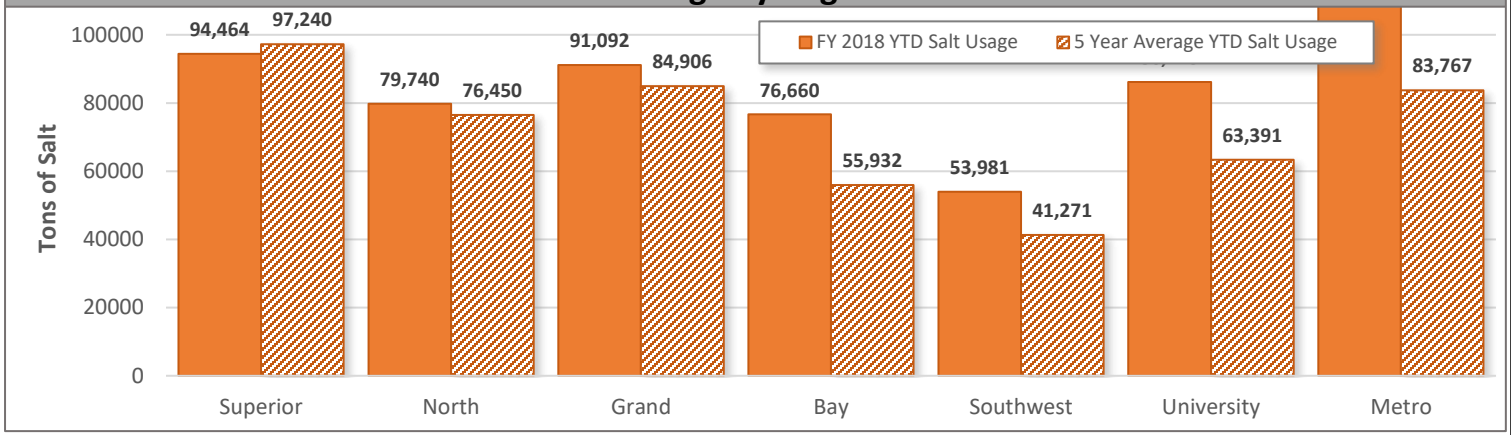
Statewide Total Lane Miles
30232.7

Salt Usage per Lane Mile
20.5

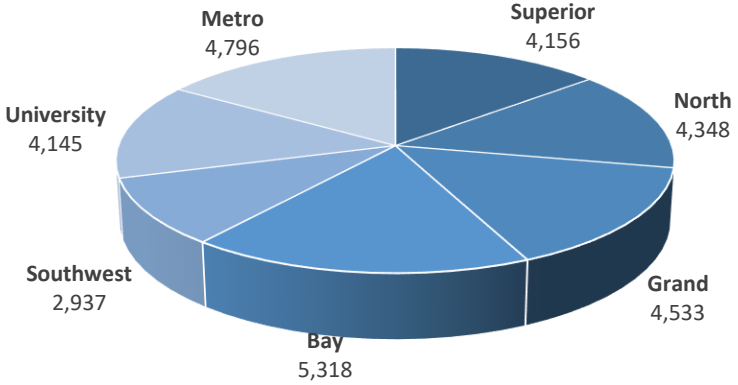
Liquid Usage per Lane Mile
78.1

Sand Usage per Lane Mile
3.6

YTD Salt Usage by Region FY 2018



Regions Lane Miles FY 2018



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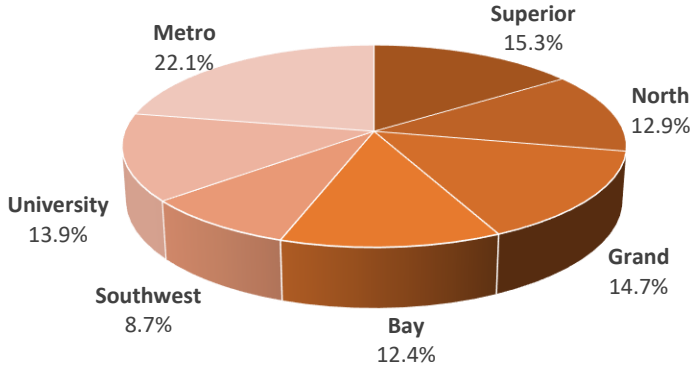
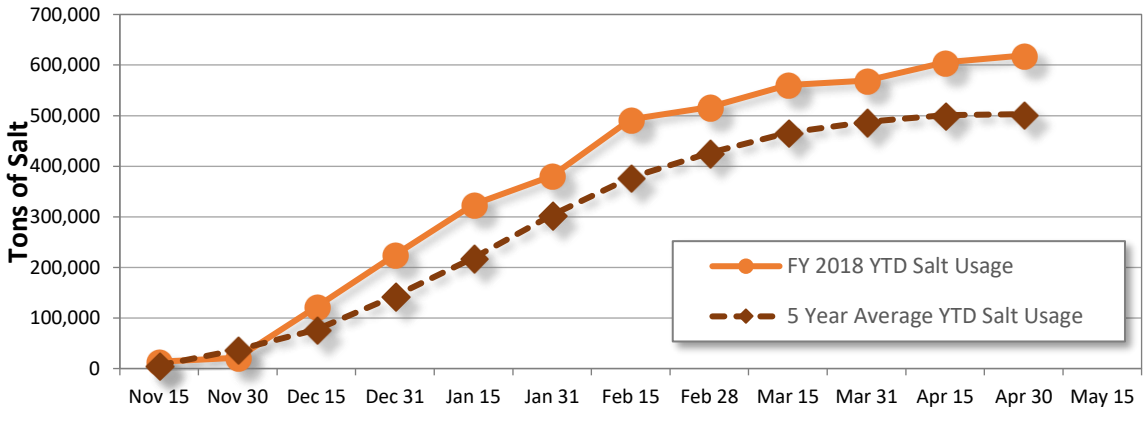
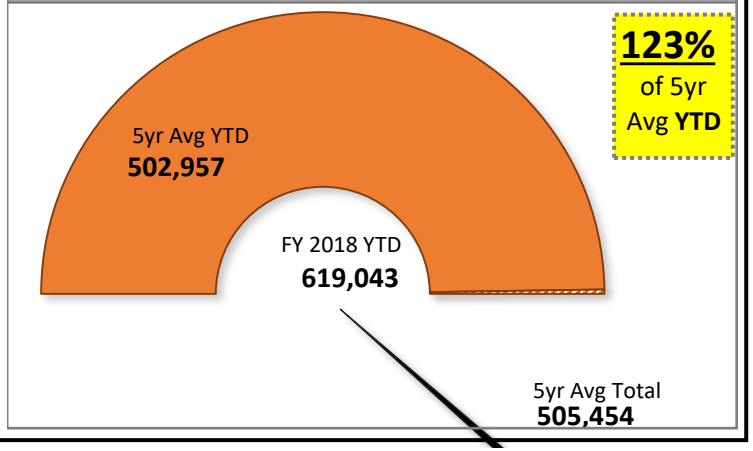


Cumulative Salt Usage FY 2018 YTD

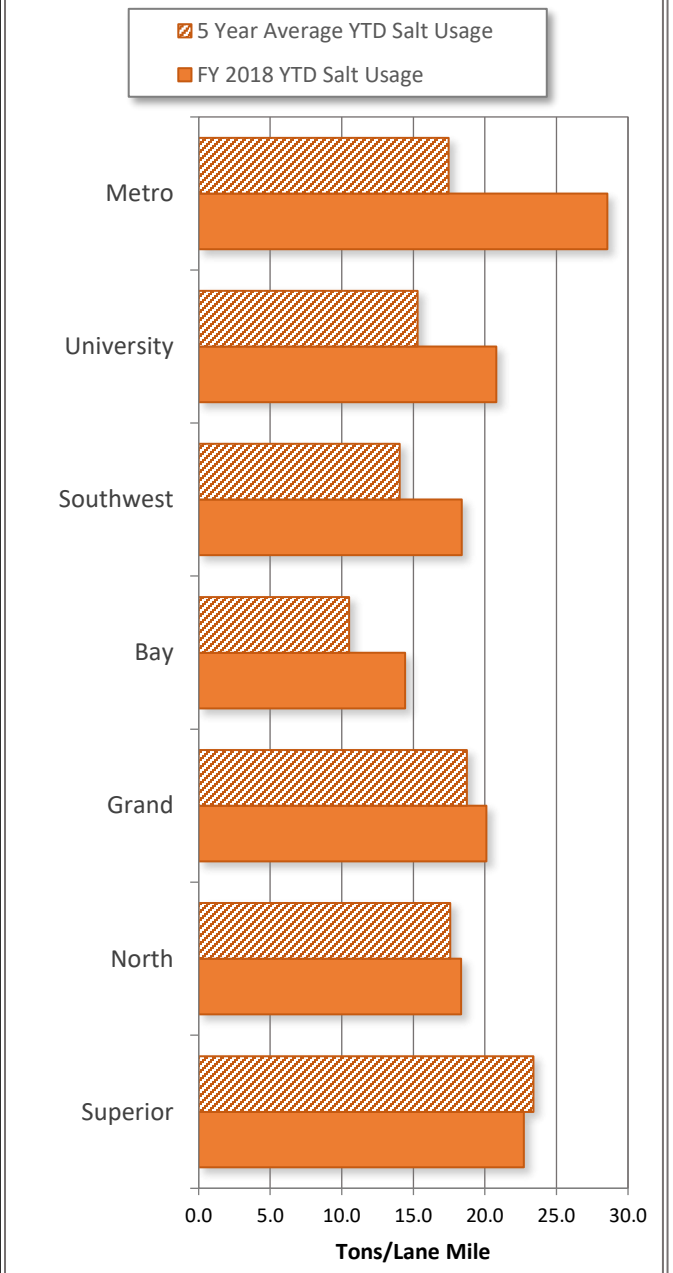


Statewide YTD Salt Usage FY 2018 (in tons)

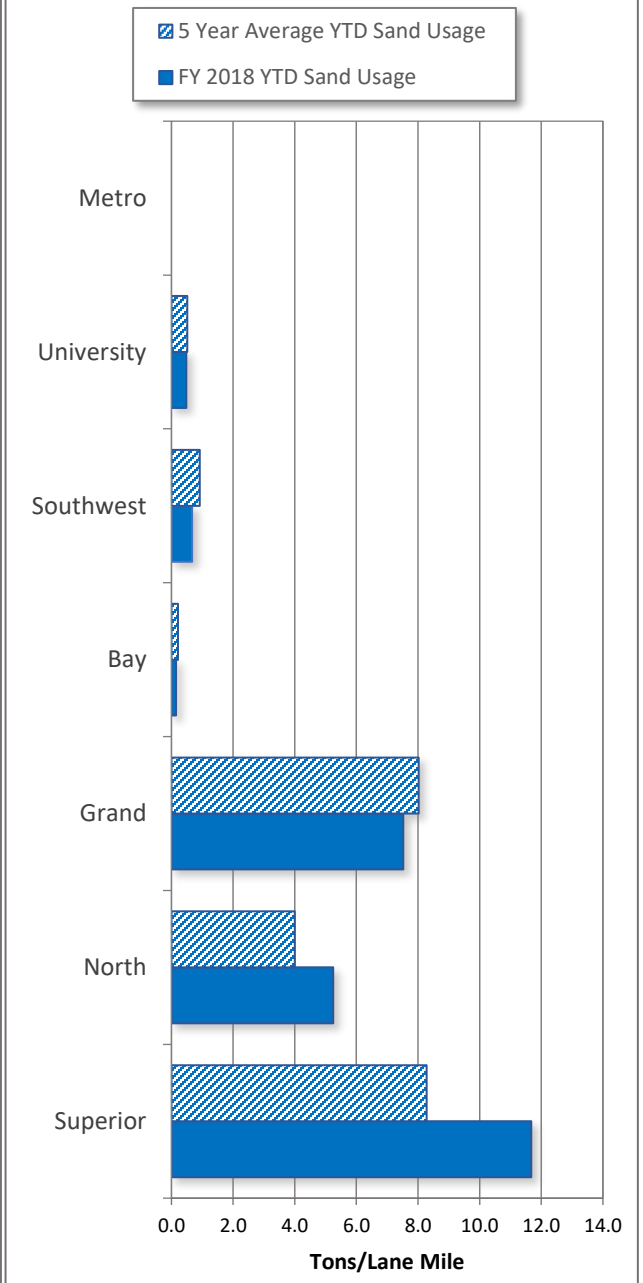


STATEWIDE SUMMARY : FY 2018 County & Garage Winter Material Usage

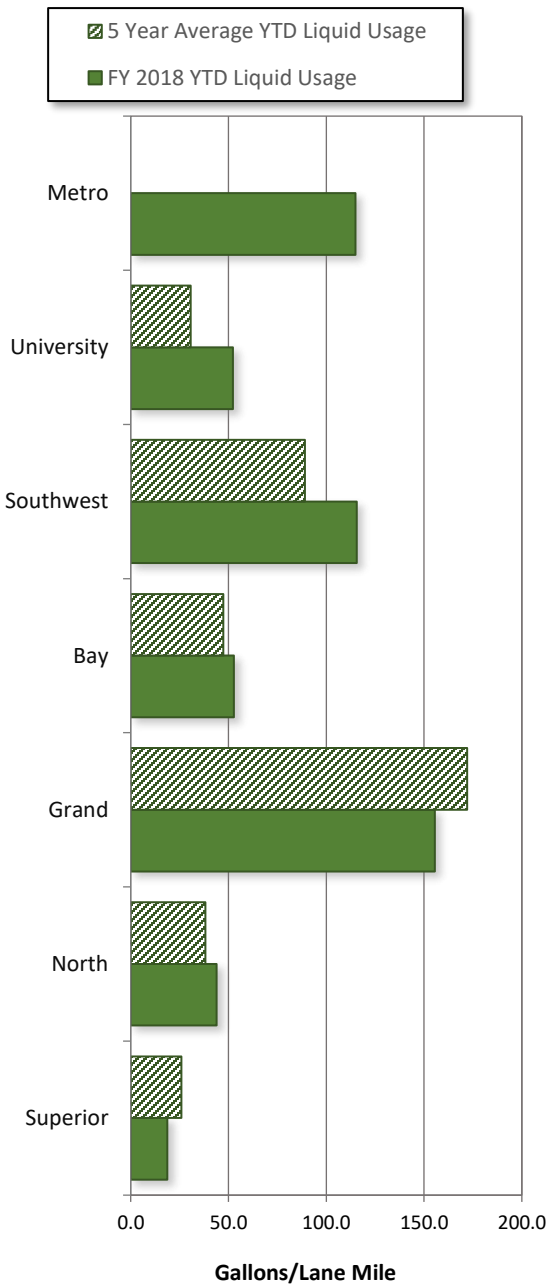
Salt Usage FY 2018 YTD per lane mile



Sand Usage FY 2018 YTD per lane mile

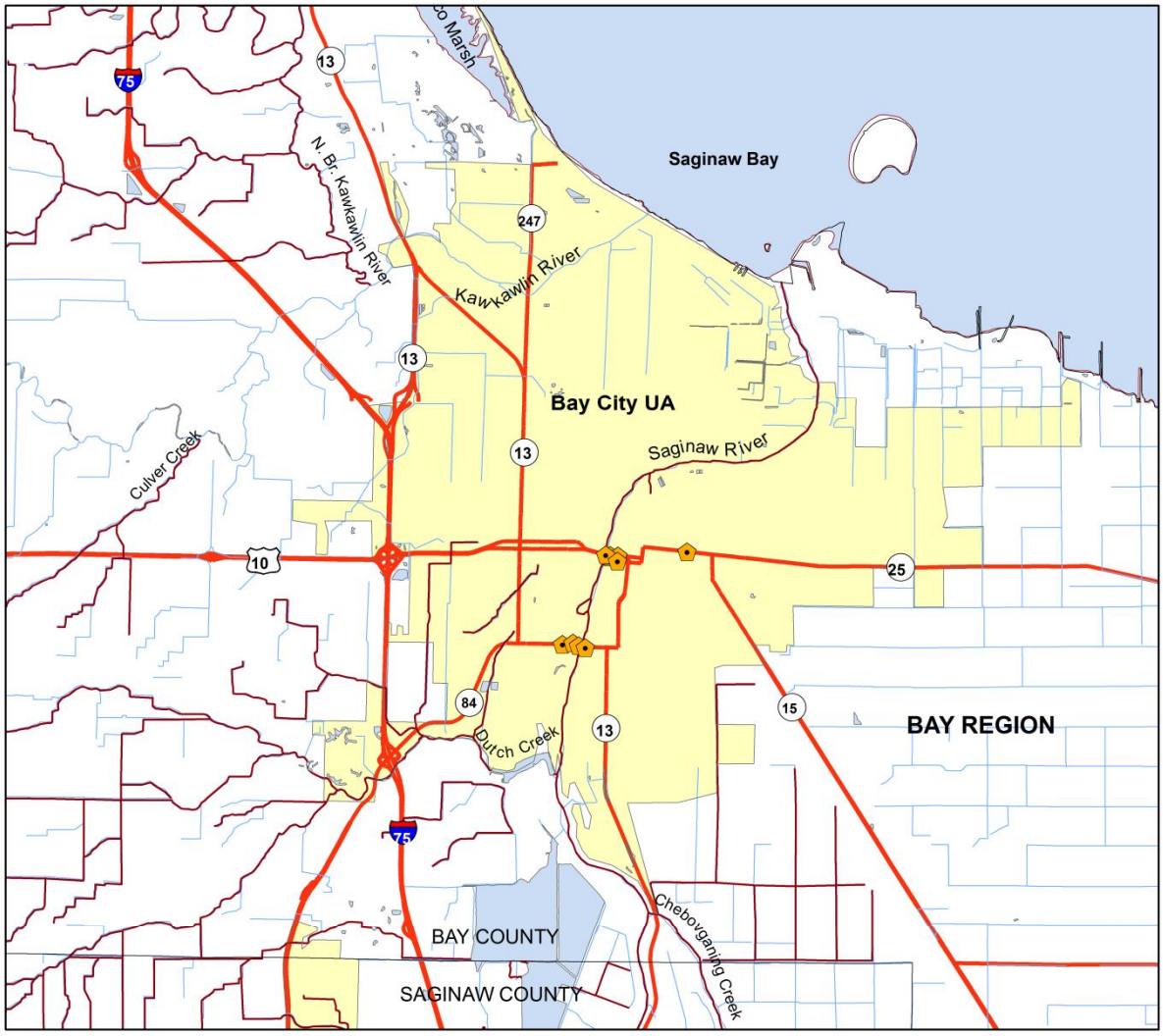


Liquid Usage FY 2018 YTD per lane mile



ACTIVITY IDEP 2: DEVELOP MAPPING SCHEDULE AND UPDATE MAPS FOR OUTFALLS IN URBAN AREAS **MONITORING YEAR: 2018**	
Minimum Control Measure : Illicit Discharge Elimination Program Activities **Statewide or Urbanized Area:** Urbanized Area **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • IDEP 1: Maintain List of Active Construction Projects and Major Maintenance Activities
OBJECTIVE	
To develop current outfall maps and schedule for updating in the future.	
DESCRIPTION	
To develop an annual mapping schedule and complete mapping of outfalls in MDOT right-of-way in urbanized areas including MDOT roads crossing 303(d)-listed water bodies and other non-impaired water bodies. Known outfalls will be mapped based on existing survey maps.	
ANNUAL REPORTING	
• Track completed maps and updated outfalls • Report physical location where up-to-date storm sewer system maps are available	
MEASURABLE GOALS	
MEASURABLE GOAL	**MEASURE OF ASSESSMENT**
Map outfalls in MDOT right-of-way in urbanized areas.	To be reported annually to the Stormwater Program Manager
Annual Assessment: Maps of outfalls at stream crossings over or within 300 feet of impaired waters of the state within urbanized areas based are on field inspection of top priority outfalls. Maps of outfalls at stream crossings over waters of the state within urbanized areas that are not field screened are based on a GIS analysis. Detailed storm sewer maps are also available at each MDOT Region office.	
Update known outfall maps annually and include in the annual progress report.	Maps given to the Stormwater Program Manager by the consultant annually.
Annual Assessment: Maps created in 2016 are available on the following pages and will be updated throughout the permit cycle as more outfalls are identified.	
MDOT to provide permanent identification for all outfall structures.	ID will be documented and tracked by MDOT Stormwater Program Manager
Annual Assessment: MDOT utilizes a special provision for outfall labeling on all projects that discharge to a water of the state. The special provision was included on 11 projects that were let for construction in 2018.	

Bay City Urbanized Area



Legend

- County Lines
- Impaired Waterbodies
- Streams and Rivers
- Lakes
- MDOT Roads
- Urbanized Area
- IDEP Field Investigation Locations

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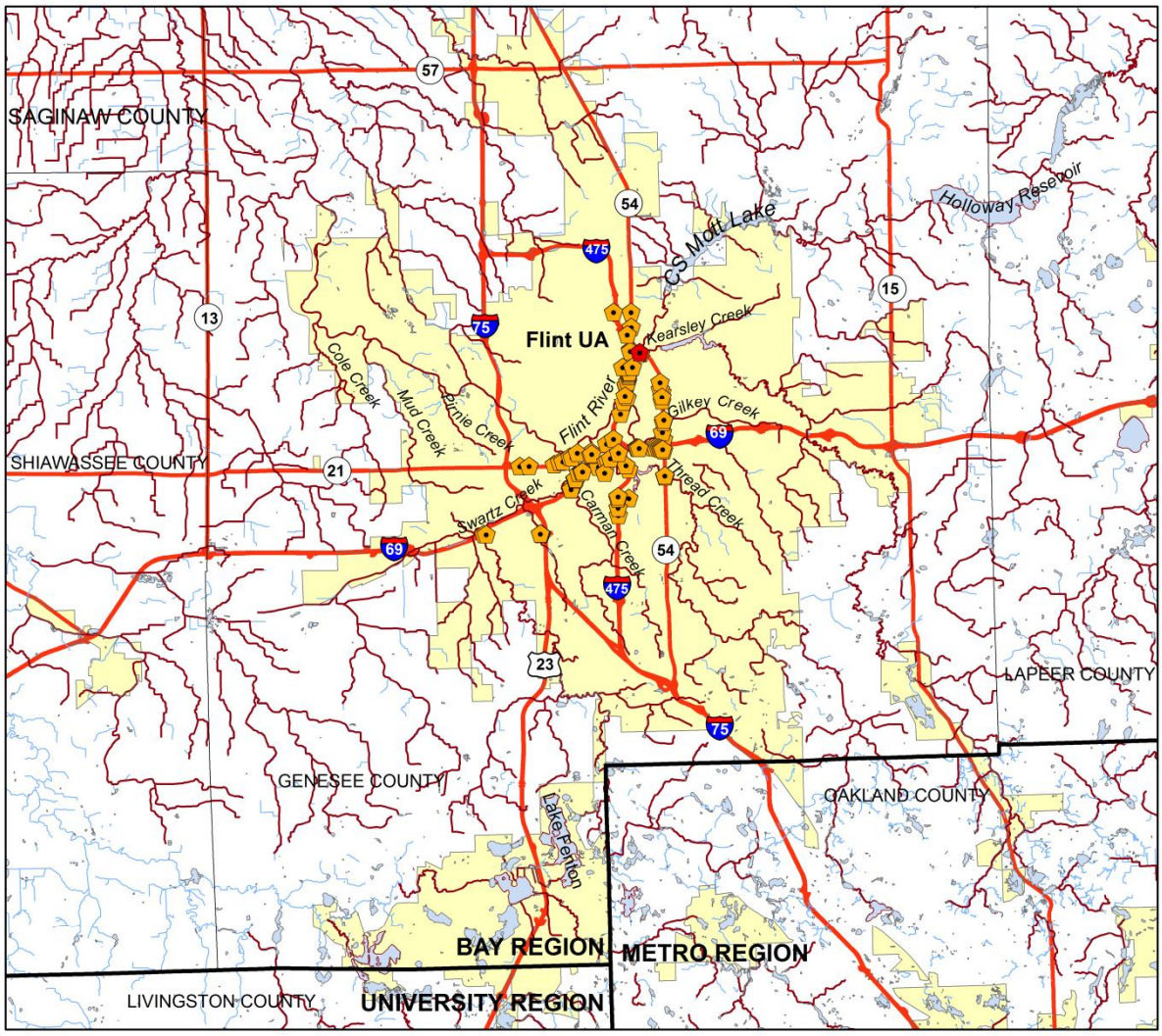
N

0 0.75 1.5 3 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Flint Urbanized Area



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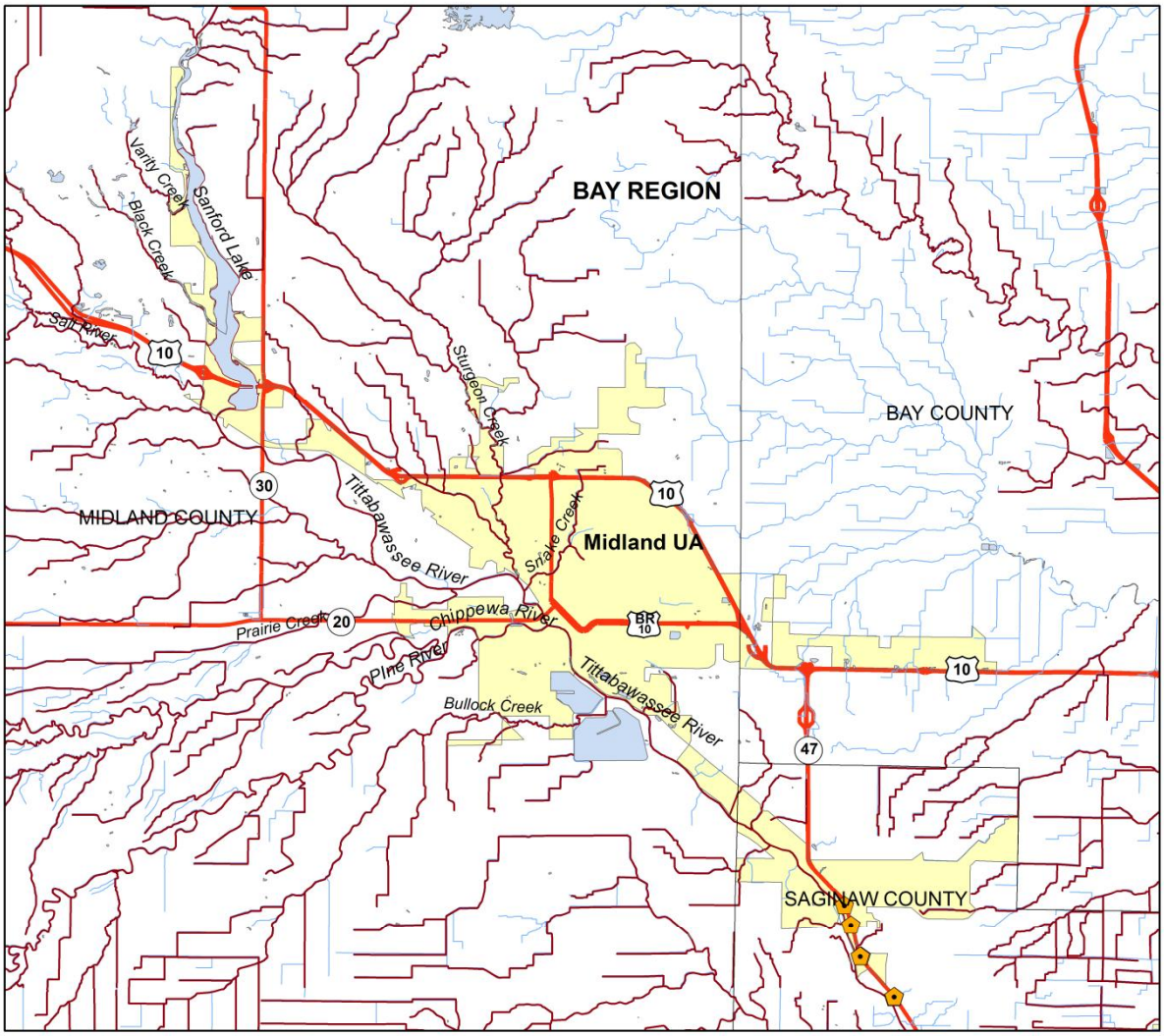
N

0 1.5 3 6 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Midland Urbanized Area



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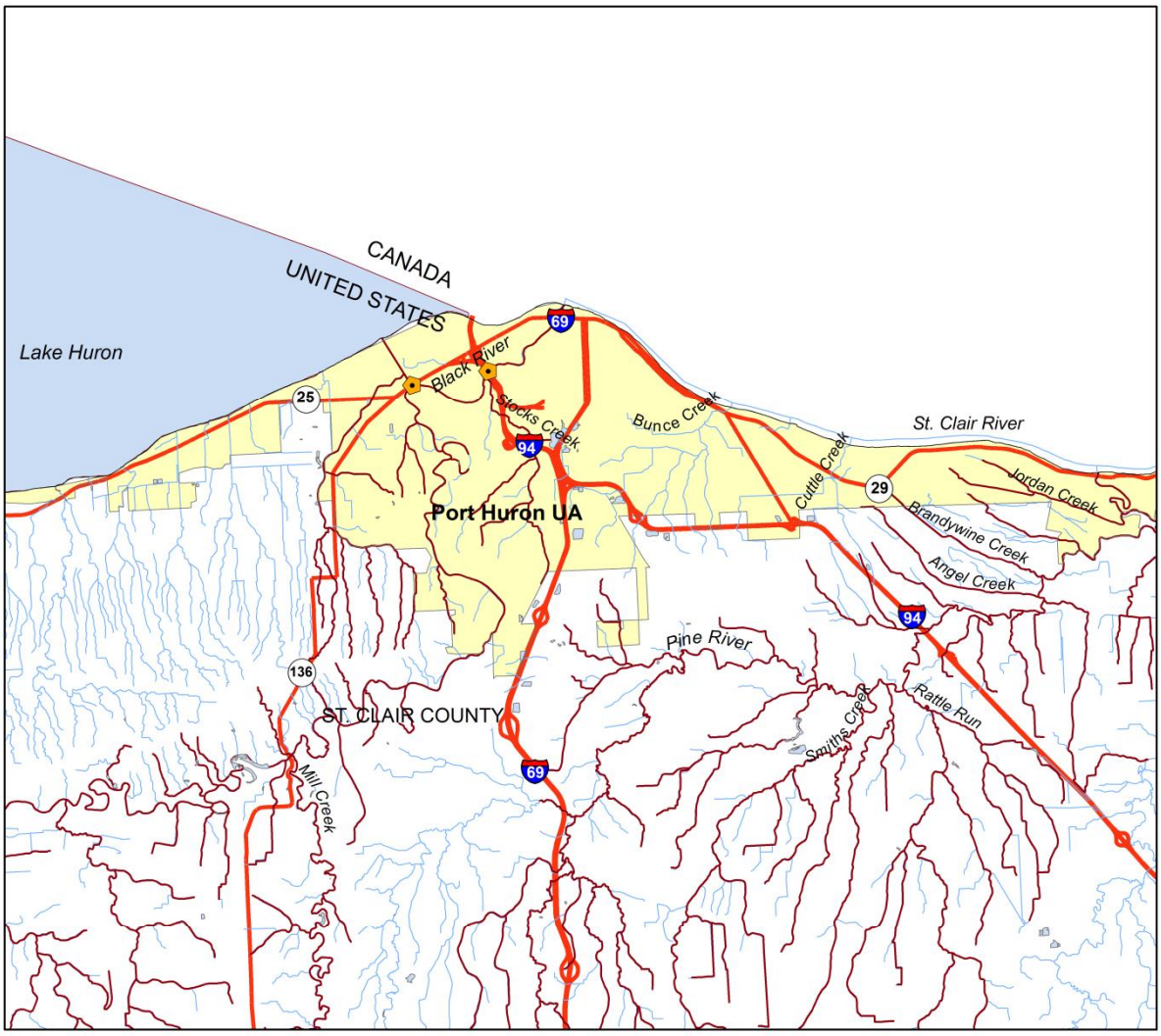
N

0 1.25 2.5 5 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Port Huron Urbanized Area



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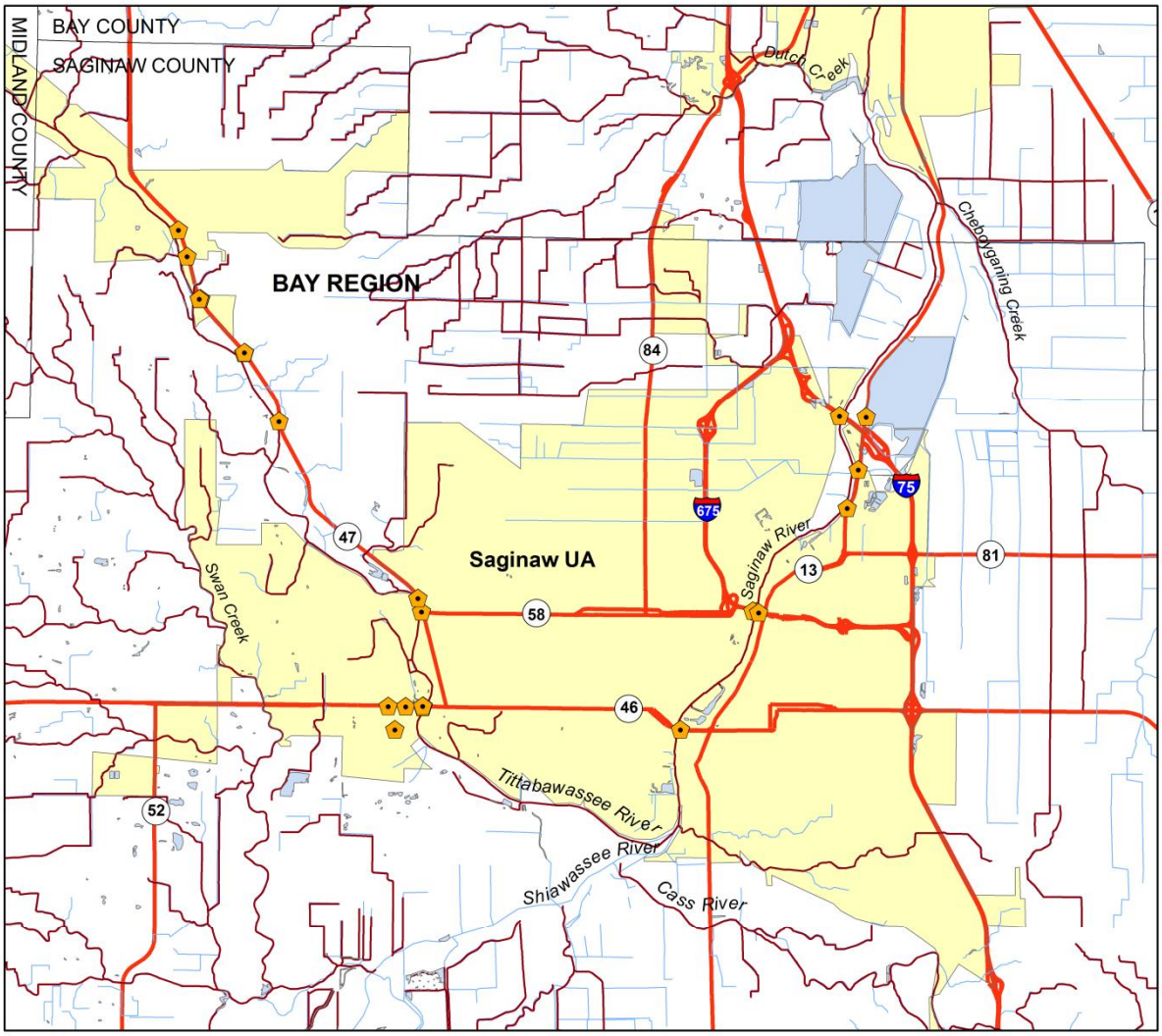
N

0 1 2 4 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Saginaw Urbanized Area



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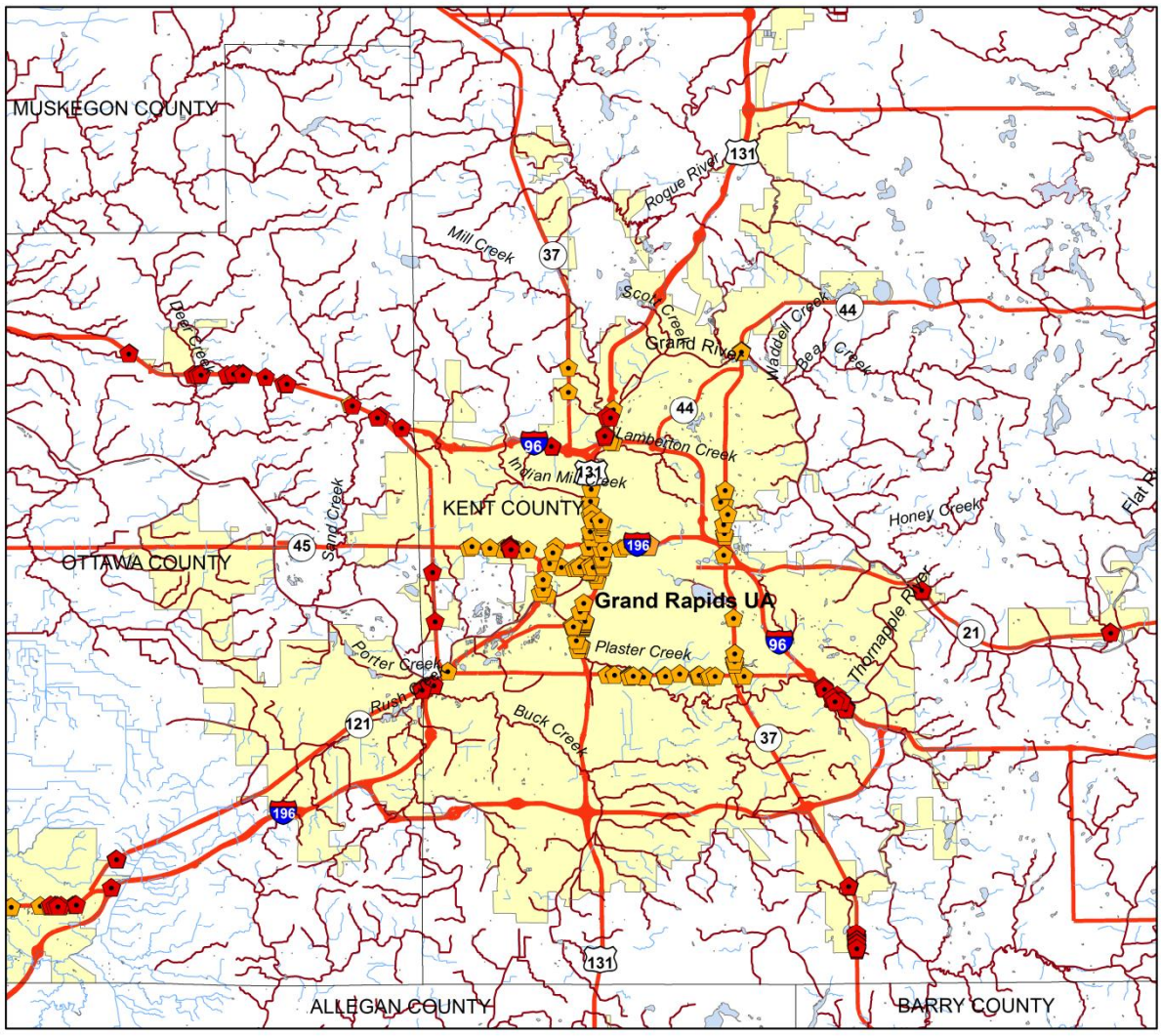
N

0 1 2 4 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Grand Rapids Urbanized Area



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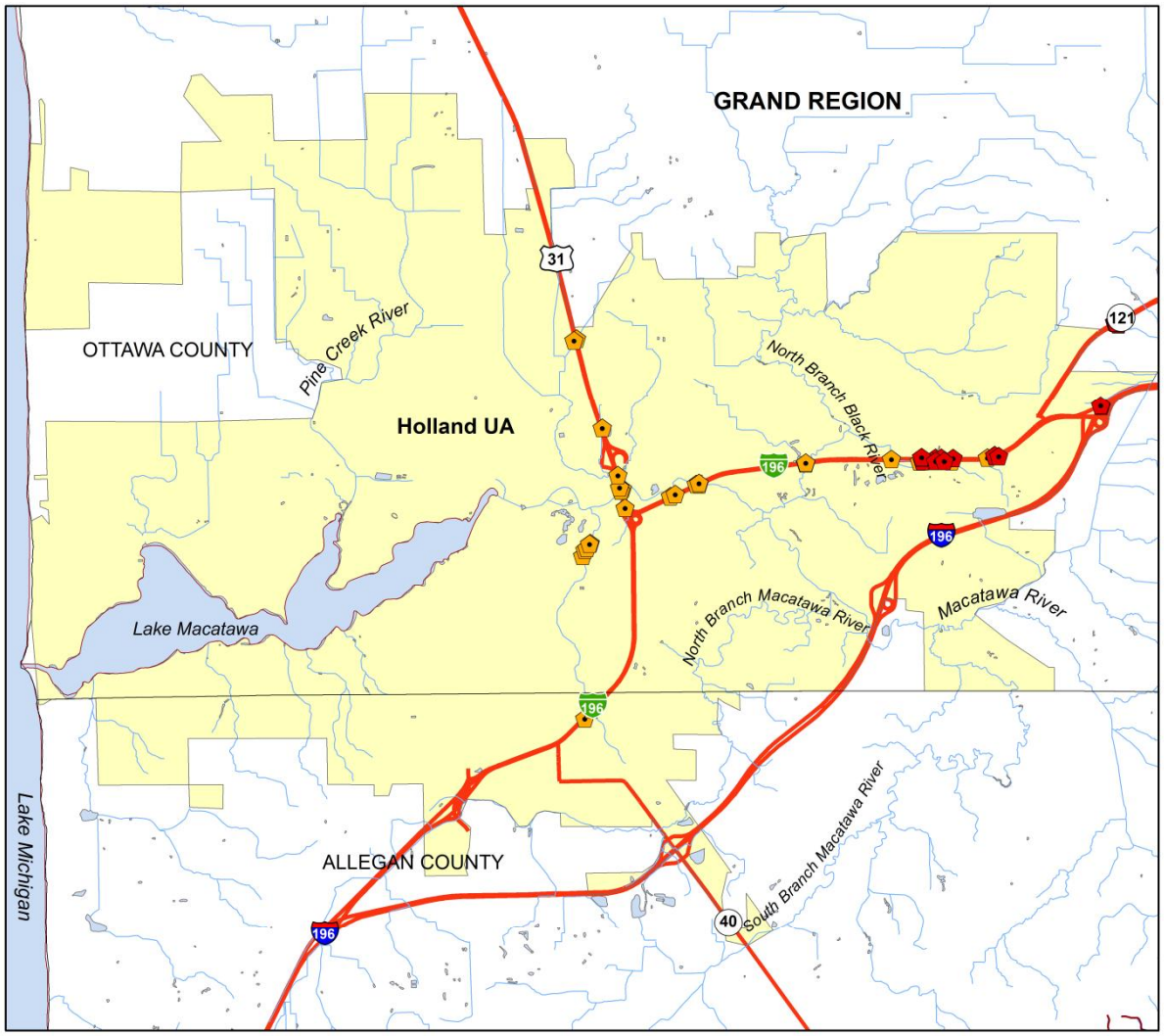
N

0 2 4 8 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Holland Urbanized Area



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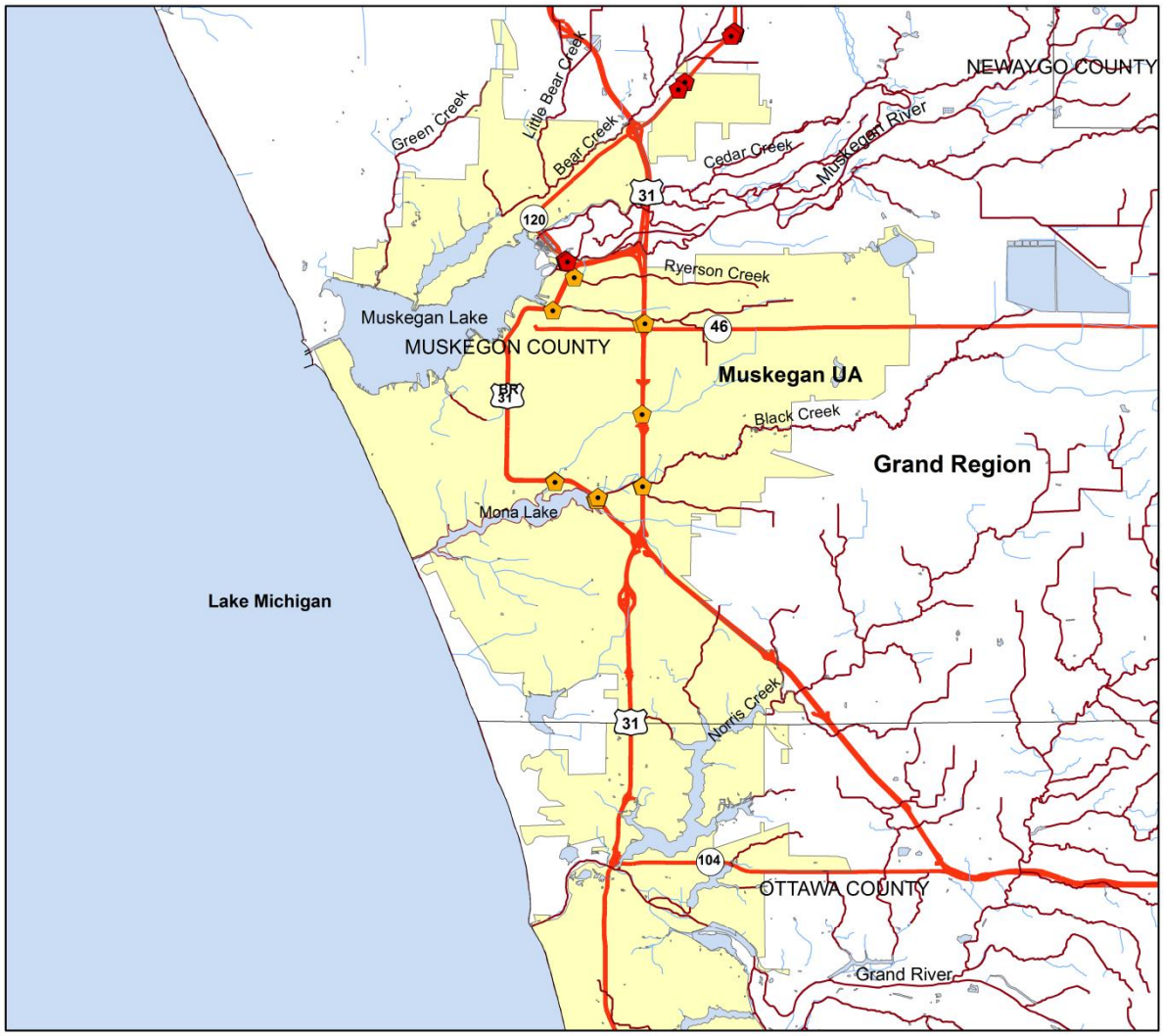
N

0 0.5 1 2 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Muskegon Urbanized Area



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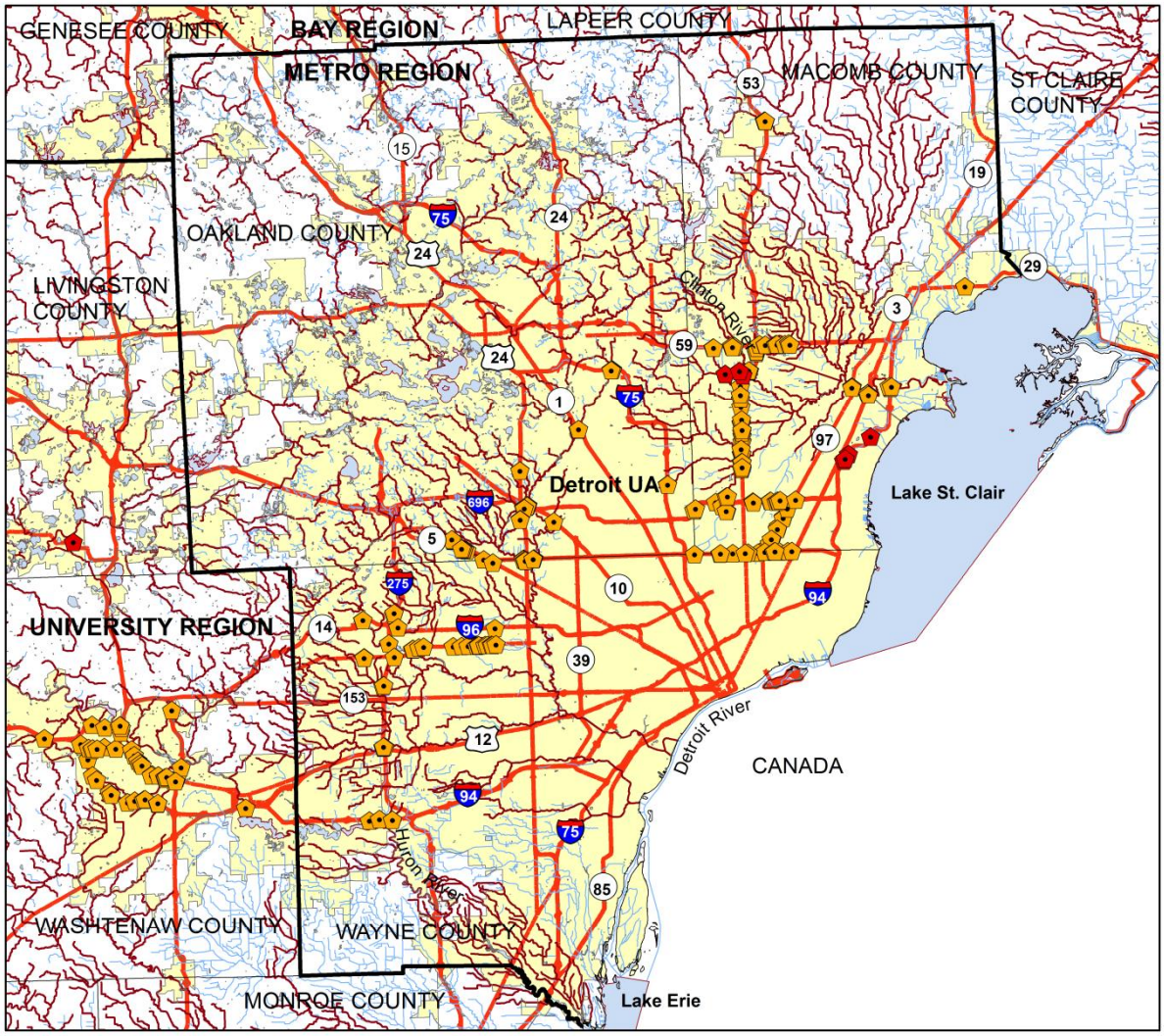
N

0 1 2 4 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Detroit Urbanized Area



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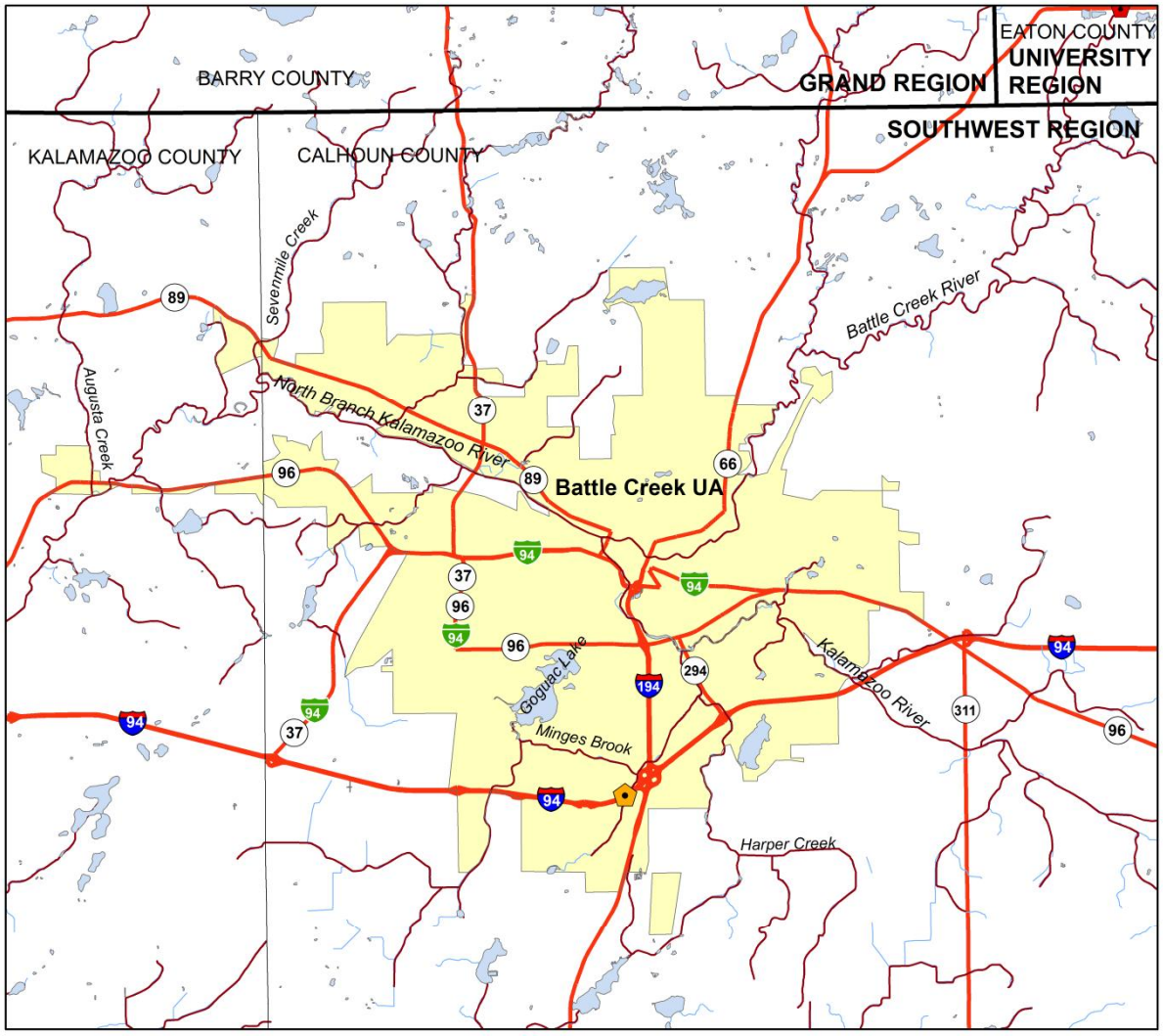
N

0 3.5 7 14 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Battle Creek Urbanized Area



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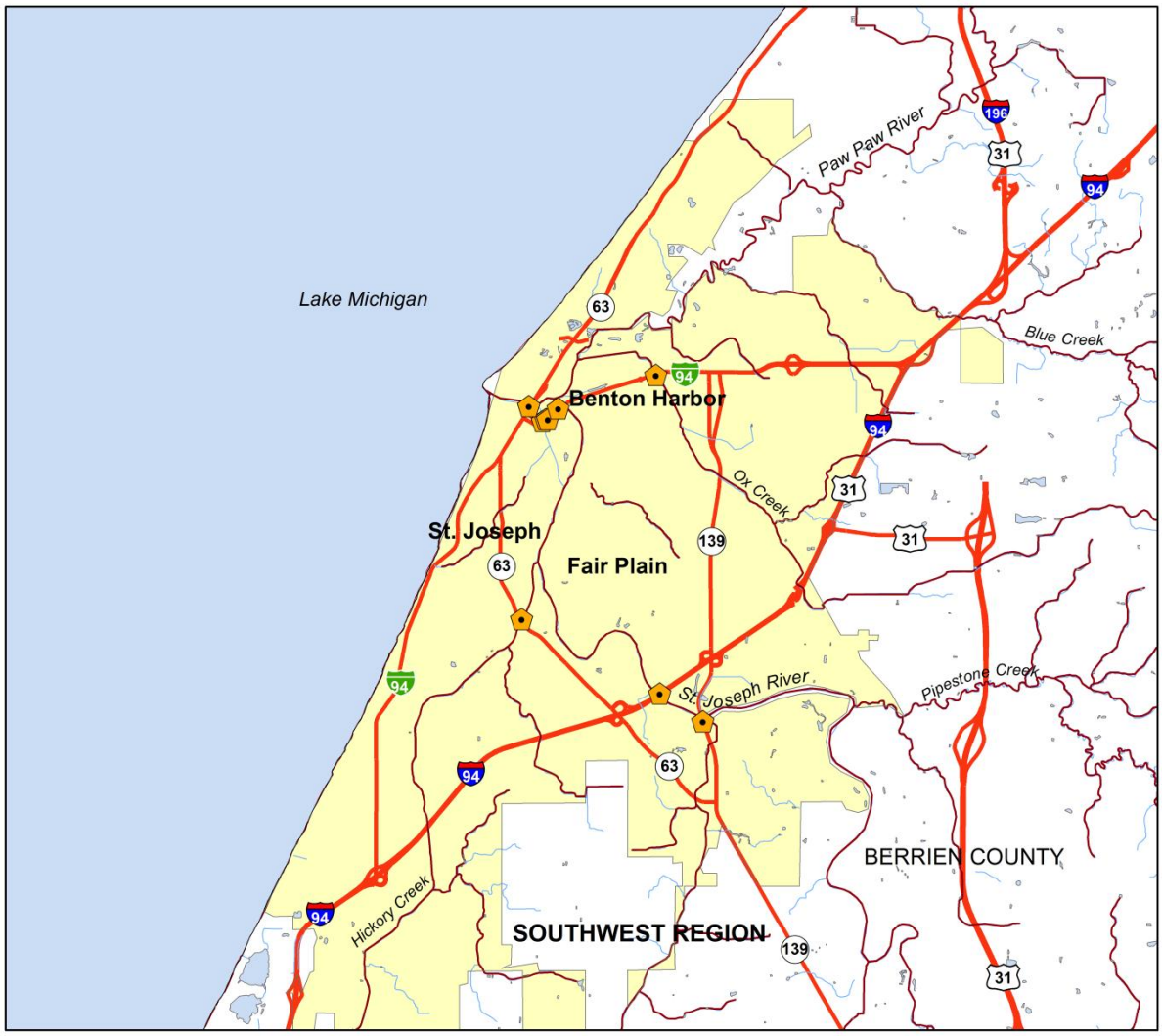
N

0 1 2 4 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Benton Harbor-St. Joseph Urbanized Area



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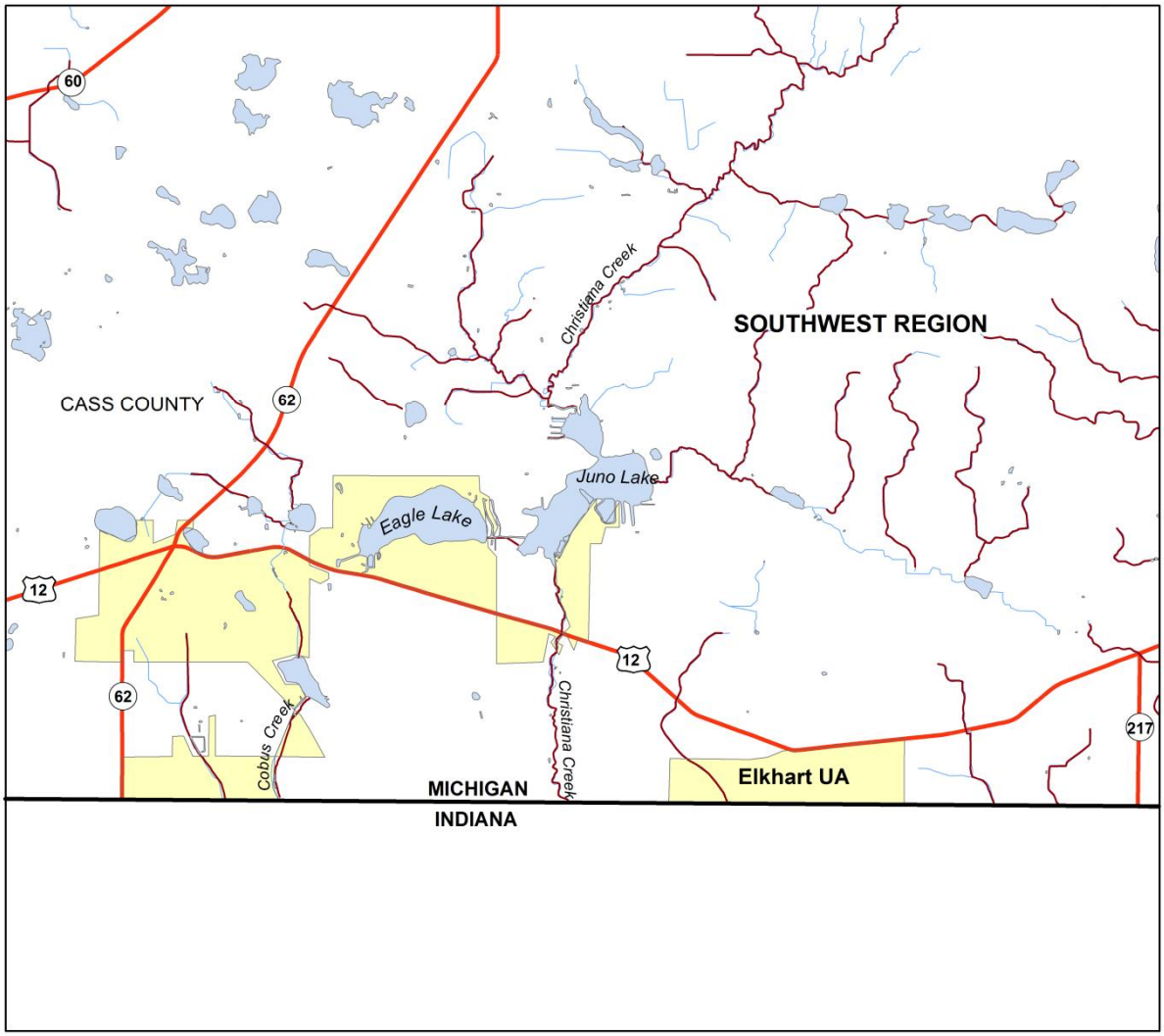
N

0 0.5 1 2 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Elkhart Urbanized Area



Legend

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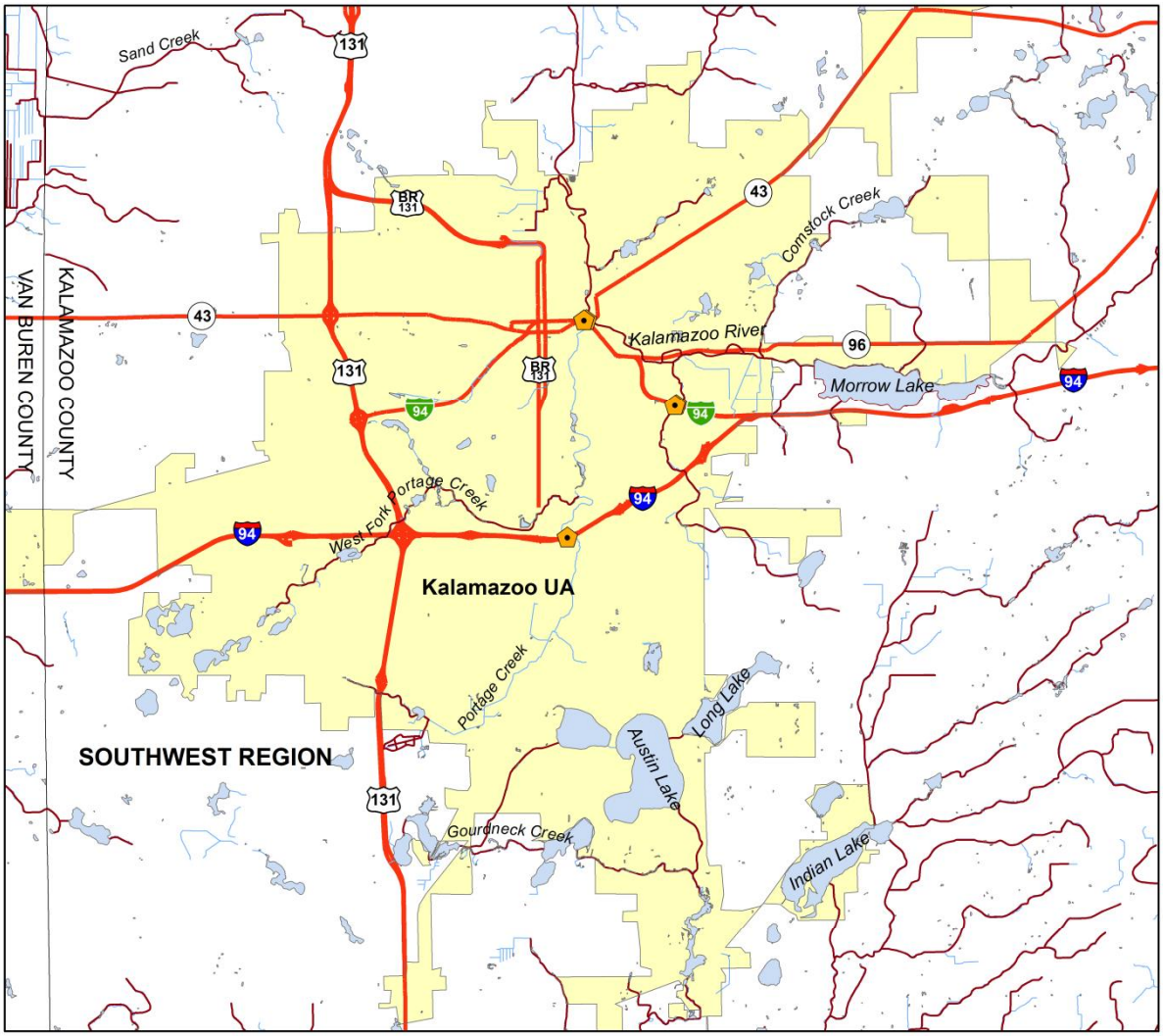
N

0 0.5 1 2 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Kalamazoo Urbanized Area



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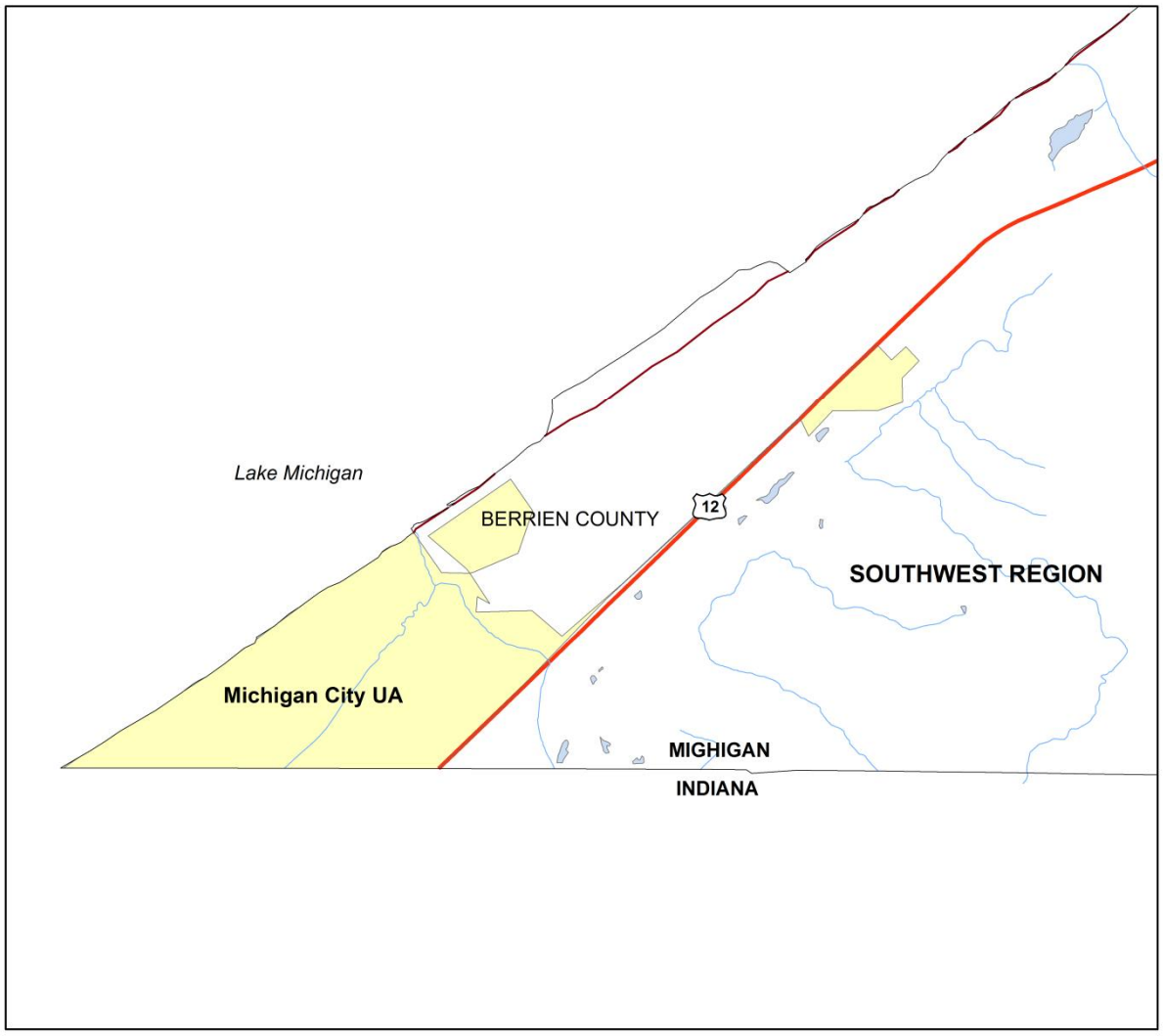
N

0 1 2 4 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Michigan City Urbanized Area



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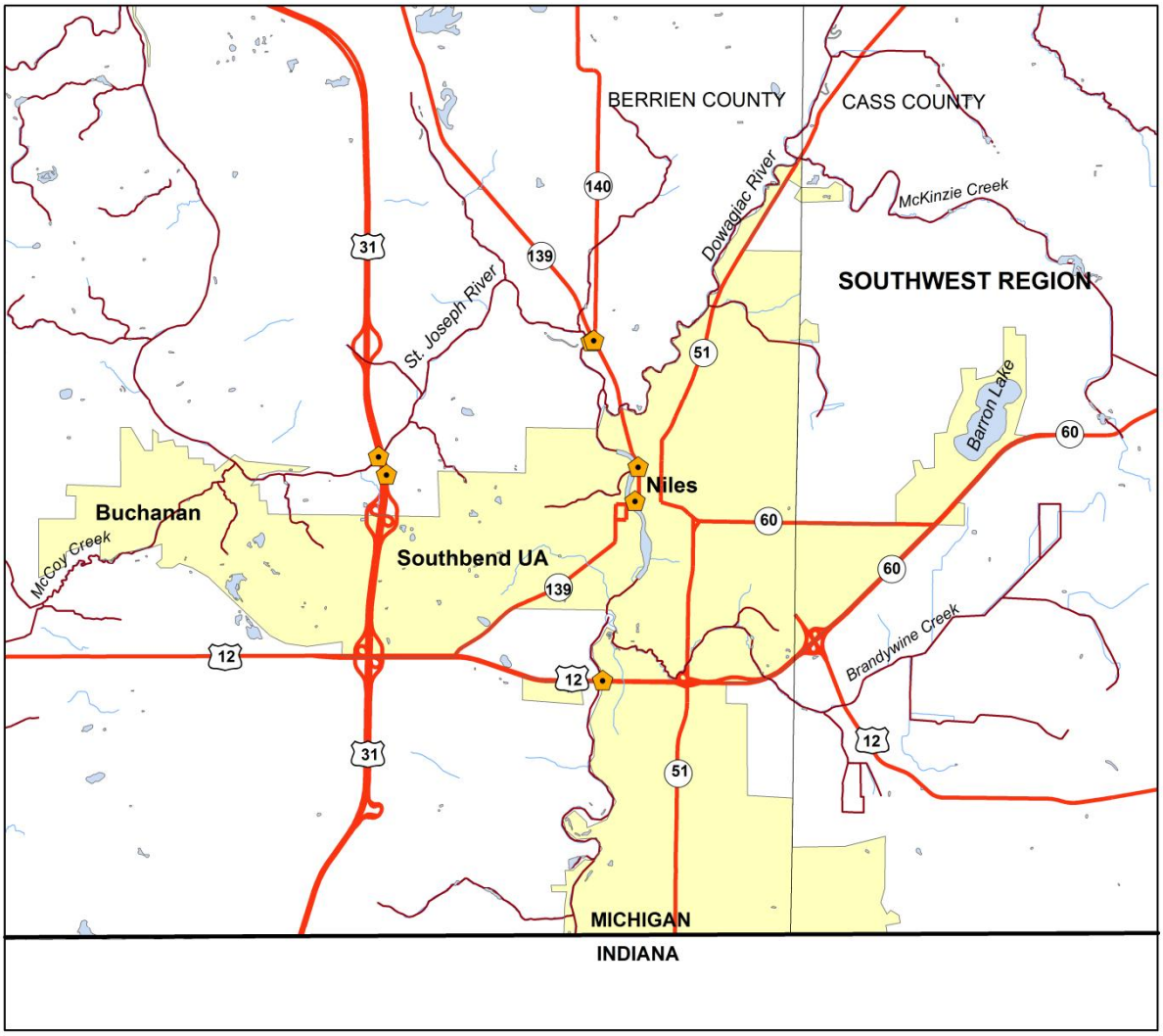
N

0 0.2 0.4 0.8 Miles

Designer: CSM
Date: 6/2/2016

AECOM

South Bend Urbanized Area



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- IDEP Field Investigation Locations

-Michigan county line data was obtained from the Michigan Center for Geographic Data Library
-MDOT road data was obtained from the Michigan Center for Geographic Framework Data Library
-Urbanized Area status is based on 2010 census data.
-Impaired waterbodies data was obtained from the USEPA National Geospatial Dataset
-Michigan waterbody data was obtained through the Michigan Center for Geographic Framework Data Library

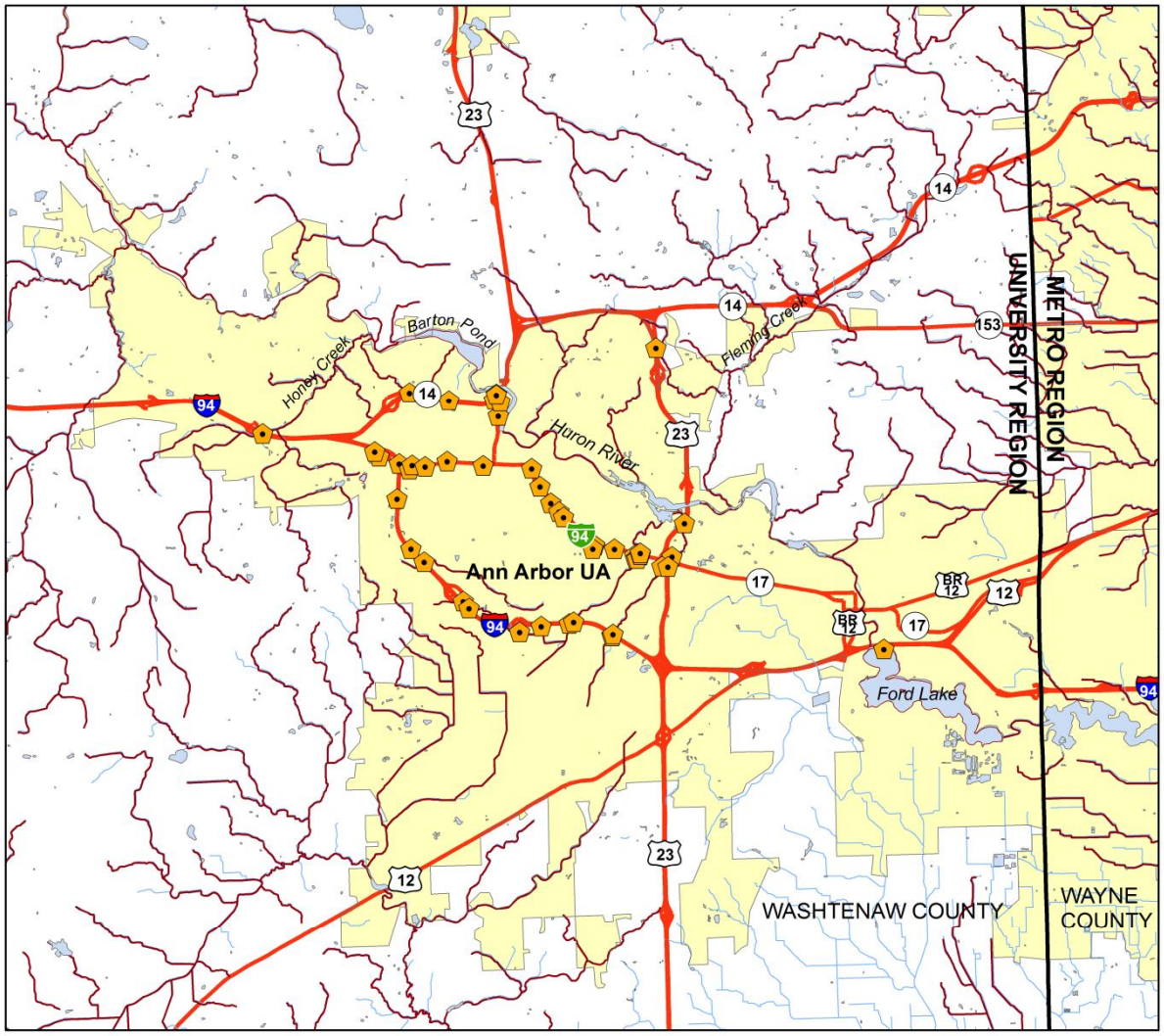
N

0 0.5 1 2 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Ann Arbor Urbanized Area



Legend

- County Lines
- Impaired Waterbodies
- Streams and Rivers
- Lakes
- MDOT Roads
- Urbanized Area
- IDEP Field Investigation Locations

-Michigan county line data was obtained from the Michigan Center for Geographic Data Library
-MDOT road data was obtained from the Michigan Center for Geographic Framework Data Library
-Urbanized Area status is based on 2010 census data.
-Impaired waterbodies data was obtained from the USEPA National Geospatial Dataset
-Michigan waterbody data was obtained through the Michigan Center for Geographic Framework Data Library

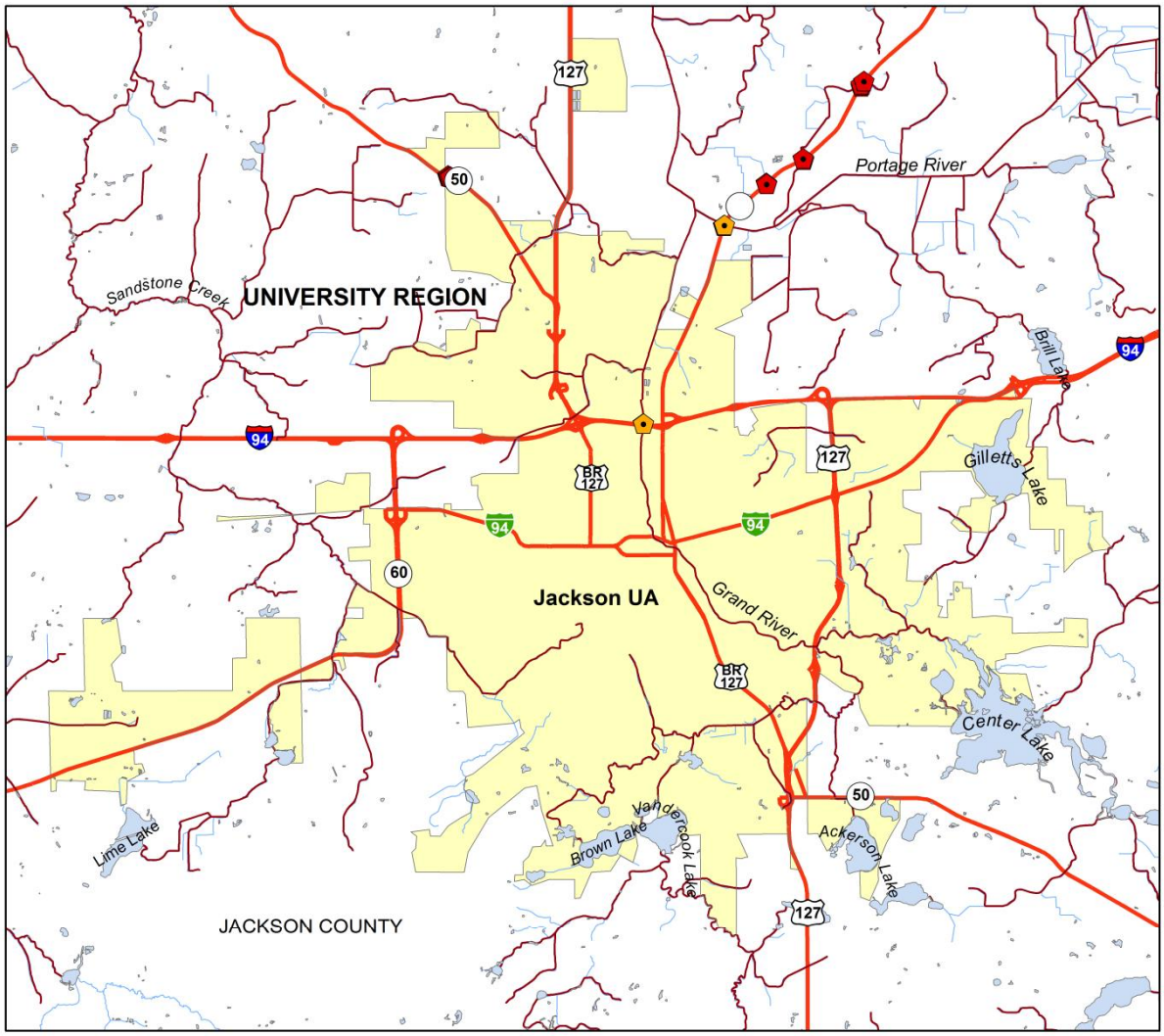
N

0 1 2 4 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Jackson Urbanized Area



Legend

- County Lines
- Impaired Waterbodies
- Streams and Rivers
- Lakes
- MDOT Roads
- Urbanized Area
- IDEP Field Investigation Locations
- Estimated Outfalls

-Michigan county line data was obtained from the Michigan Center for Geographic Data Library
-MDOT road data was obtained from the Michigan Center for Geographic Framework Data Library
-Urbanized Area status is based on 2010 census data.
-Impaired waterbodies data was obtained from the USEPA National Geospatial Dataset
-Michigan waterbody data was obtained through the Michigan Center for Geographic Framework Data Library

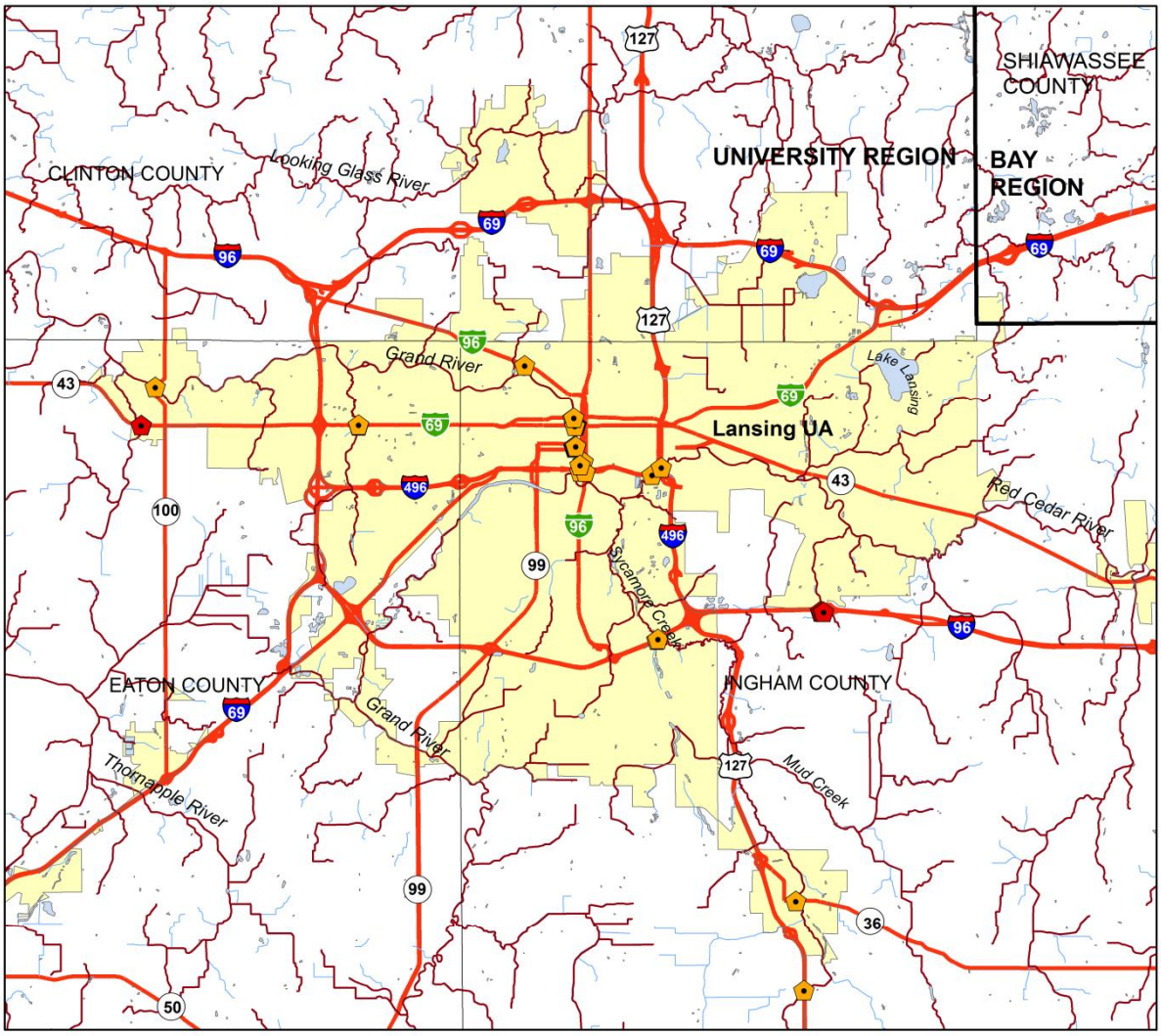
N

0 0.75 1.5 3 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Lansing Urbanized Area



Legend

- County Lines
- Impaired Waterbodies
- Streams and Rivers
- Lakes
- MDOT Roads
- Urbanized Area
- IDEP Field Investigation Locations
- Estimated Outfalls

-Michigan county line data was obtained from the Michigan Center for Geographic Data Library
-MDOT road data was obtained from the Michigan Center for Geographic Framework Data Library
-Urbanized Area status is based on 2010 census data.
-Impaired waterbodies data was obtained from the USEPA National Geospatial Dataset
-Michigan waterbody data was obtained through the Michigan Center for Geographic Framework Data Library

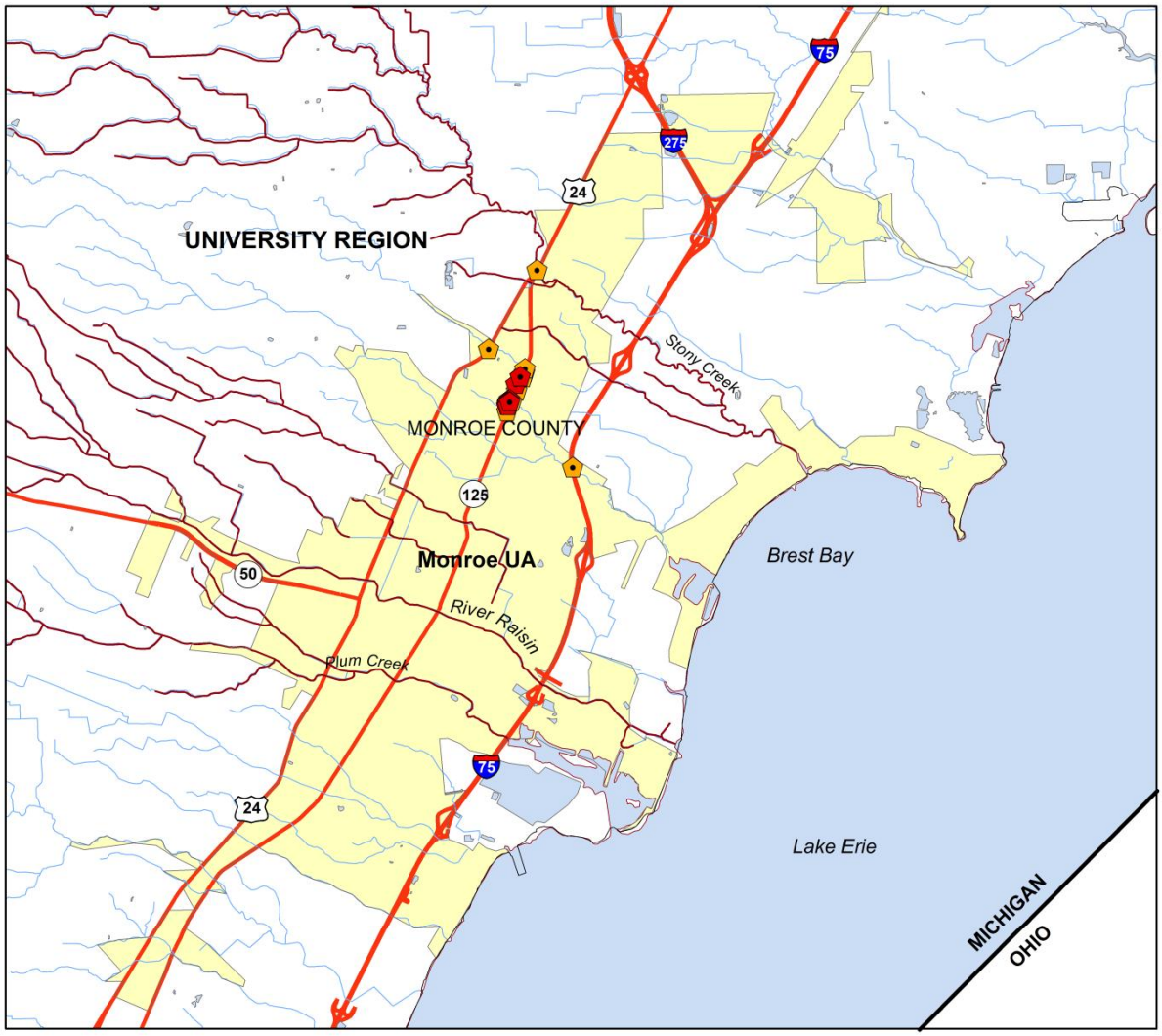
N

0 1.25 2.5 5 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Monroe Urbanized Area



Legend

- County Lines
- Impaired Waterbodies
- Streams and Rivers
- Lakes
- MDOT Roads
- Urbanized Area
- IDEP Field Investigation Locations
- Estimated Outfalls

-Michigan county line data was obtained from the Michigan Center for Geographic Data Library
-MDOT road data was obtained from the Michigan Center for Geographic Framework Data Library
-Urbanized Area status is based on 2010 census data.
-Impaired waterbodies data was obtained from the USEPA National Geospatial Dataset
-Michigan waterbody data was obtained through the Michigan Center for Geographic Framework Data Library

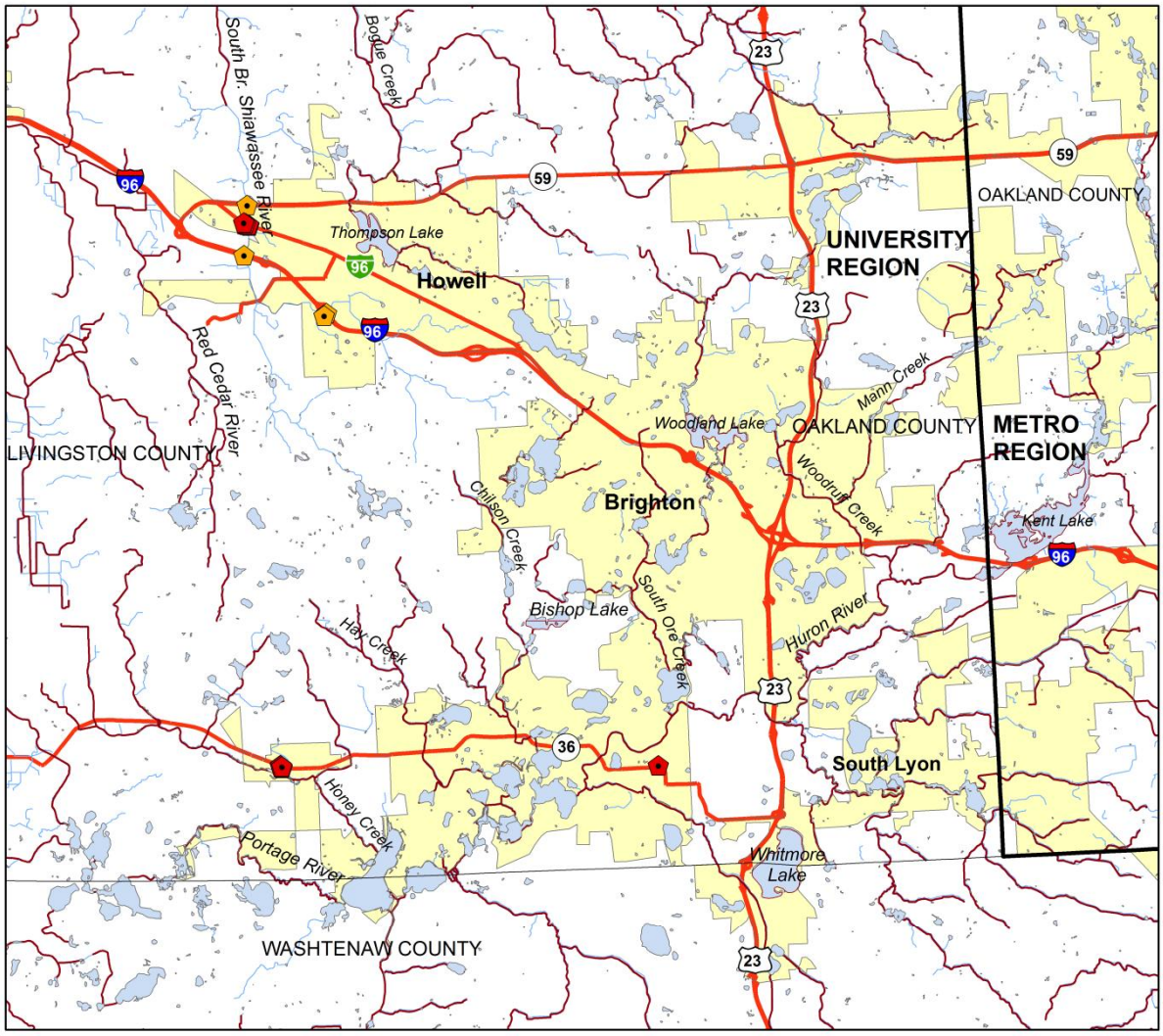
N

0 0.75 1.5 3 Miles

Designer: CSM
Date: 6/2/2016

AECOM

South Lyon-Howell-Brighton Urbanized Area



Legend

- County Lines
- Impaired Waterbodies
- Streams and Rivers
- Lakes
- MDOT Roads
- Urbanized Area
- IDEP Field Investigation Locations
- Estimated Outfalls

-Michigan county line data was obtained from the Michigan Center for Geographic Data Library
-MDOT road data was obtained from the Michigan Center for Geographic Framework Data Library
-Urbanized Area status is based on 2010 census data.
-Impaired waterbodies data was obtained from the USEPA National Geospatial Dataset
-Michigan waterbody data was obtained through the Michigan Center for Geographic Framework Data Library

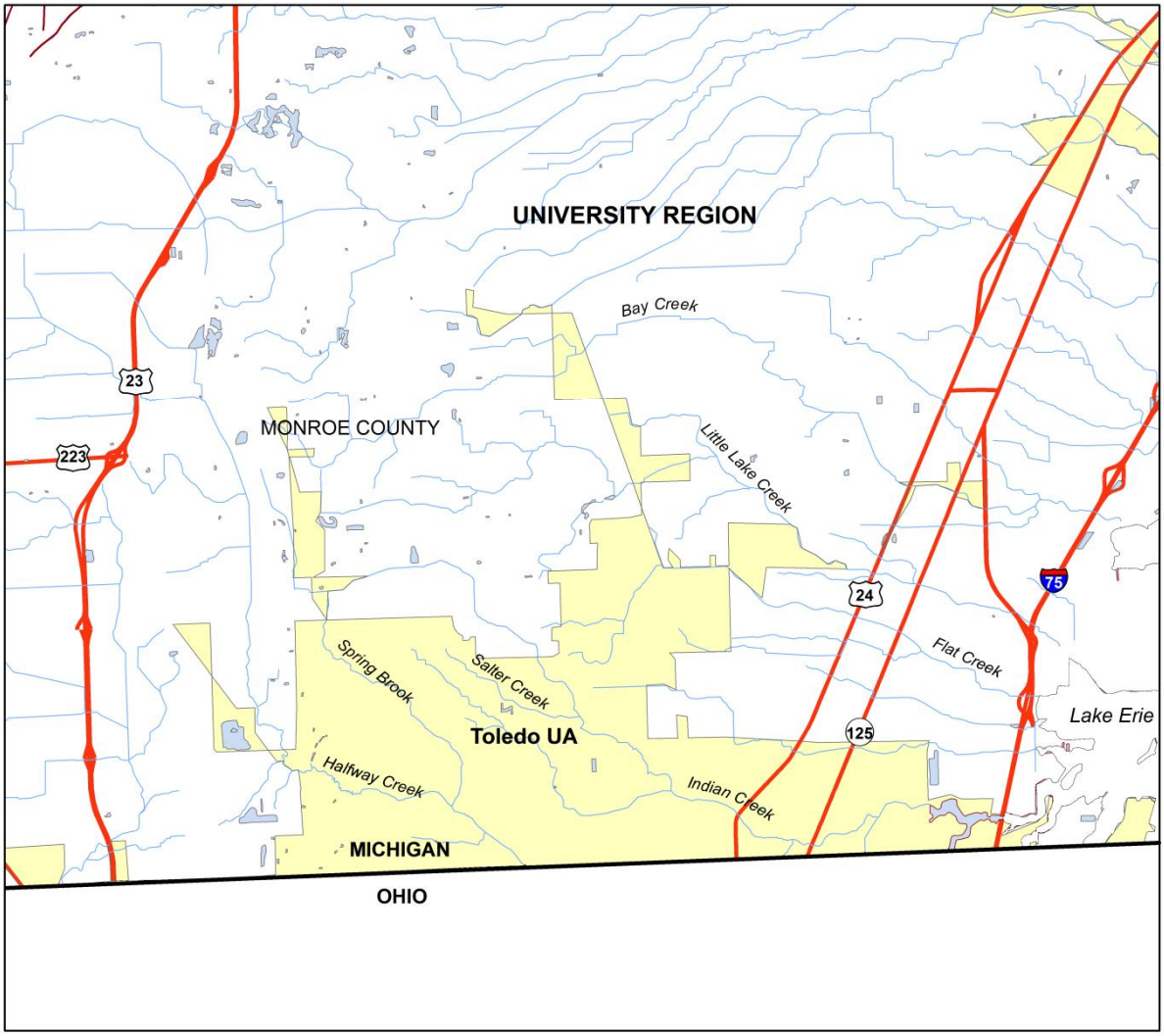
N

0 1 2 4 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Toledo Urbanized Area



Legend

- County Lines
- Impaired Waterbodies
- Streams and Rivers
- Lakes
- MDOT Roads
- Urbanized Area
- IDEP Field Investigation Locations

-Michigan county line data was obtained from the Michigan Center for Geographic Data Library
-MDOT road data was obtained from the Michigan Center for Geographic Framework Data Library
-Urbanized Area status is based on 2010 census data.
-Impaired waterbodies data was obtained from the USEPA National Geospatial Dataset
-Michigan waterbody data was obtained through the Michigan Center for Geographic Framework Data Library

N

0 0.5 1 2 Miles

Designer: CSM
Date: 6/2/2016

AECOM

ACTIVITY IDEP 3: CONTINUE TO IDENTIFY ILLICIT DISCHARGE CONNECTIONS AND CONDUCT DRY WEATHER SCREENING PILOT PROJECT

MONITORING YEAR: 2018

Minimum Control Measure : Illicit Discharge Elimination Program Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: Urbanized Area	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · IDEP 4: Notification of MDEQ of Illicit Discharges · IDEP 5: Procedure for Determining Effectiveness of the IDEP · EDUCATION 4: Develop MS4 Training Module for Designers

OBJECTIVE

To identify illicit discharges and connections from the MDOT storm sewer system within 2010 Census urbanized areas as prioritized in the IDEP Plan.

DESCRIPTION

MDOT will continue to identify illicit discharges and illicit connections. This can be done through dry weather screenings. The Red Cedar River Dry Weather Screening project will be used as a pilot program used to determine feasibility of using dry weather screenings to identify illicit discharges and connections.

ANNUAL REPORTING

- Number and location of confirmed outfalls.
- Total number of suspected illicit connections/discharges identified.
- Number and location of manholes tested for each suspected illicit connection/discharge
- Results of sample analysis.
- Description and number of illicit connections/discharges verified.
- Estimated amount and type of pollutant removed.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Follow illicit discharge procedure for 100% of illicit discharges found in order to eliminate illicit connections and discharges.	Follow up with persons who reported illicit discharge to ensure protocol was followed appropriately.

Annual Assessment: Several illicit discharge events took place in 2018:

- Bay Region at the BP Express Stop, 15815 Oakley Rd, Chesaning MI: Contaminated ditch spoils were encountered while the MDOT Westside Garage crew was ditching. The contamination was coming from the gas station through the storm pipe. Active cleanup was done on the site including: vacuuming the ditch and catch basin and proper disposal of the spoils. MDEQ was notified of the issue.
- Grand Region: An illicit discharge was identified at M-115 and M-66 in Osceola County at a service station. MDEQ was notified and completed a remediation project in 2018.
- Southwest Region at the Van Buren County Road Commission – Western District Maintenance Facility in Bangor: Maintenance forces located four suspect pipes discharging into ditch along M-43. Three determined to be for stormwater. One was determined to include from a garage floor drain. Van Buren County was noticed on October 10, 2018 that the floor drain connection would need removal. MDOT contacted the Van Buren County Road Commission manager on January 29, 2019 to urge action on this issue. This issue has yet to be resolved.

- Southwest Region at 2498 US-12, Galien: Maintenance forces located a pipe suspected of discharging from a septic tank into an MDOT catch basin. Berrien County Health Department (BCHD) notified and took action to correct the issue. BCHD stated that the connection was removed as of 12/4/2018.
- University Region: Four separate illicit discharges were investigated in the University Region. Three were on M-43 east and west of Williamston. One was found to be iron bacteria with no action required. One was a discharge from a basement sump, which the Lansing TSC addressed with the property owner. One was of unknown origin and the City of Williamston was advised of the situation. The fourth site was on M-50 in Charlotte. The property was informed of the illegal connection and the pipe was removed.

Update MDEQ of the areas selected for dry weather screening.	Updated list of dry weather screenings sent to the appropriate person at MDEQ by the Stormwater Program Manager.
Annual Assessment: The areas for dry weather screening were chosen in 2018 and MDEQ notified.	
Desktop analysis for dry weather screening	Preparing storm sewer maps, stormwater system map, developing dry weather screening procedures
Annual Assessment: The desktop analysis was completed in 2016.	
Review outfalls identified in desktop analysis	Field work such as verification of drainage system components and locating stormwater outfalls.
Annual Assessment: MDOT received known outfalls from counties and cities within the dry weather screening project area.	
Results of dry weather screenings will be used to identify and eliminate illicit discharges	The effectiveness of the program will be assessed at the end of the program, in 2020.
Annual Assessment: During the dry weather screening field work in 2018, there were several wet locations which were documented in the report to MDEQ.	
The effectiveness of the dry weather screening will be assessed at the end of the first pilot project.	Report to be given to the Stormwater Program Manager at the conclusion of the dry weather screening pilot project
Annual Assessment: This effort will be addressed once the dry weather screening project is finished in 2020**.**	
Develop a guide on prioritized areas for non-stormwater discharges based on findings from the first dry weather screening pilot project.	Guide to be completed and distributed to relevant MDOT employees and job-related public.
Annual Assessment: This effort will be addressed once the dry weather screening project is finished in 2020	
Develop a plan and schedule for re-inspecting stormwater point sources for the inspection of stormwater point sources in conjunction with the plan to ensure point sources are inspected every five years.	A plan and schedule will be developed with coordination from a consultant and the Stormwater Program Manager. The final plan to be given to the Stormwater Program Manager for implementation.
Annual Assessment: This effort will be addressed once the dry weather screening project is finished in 2020	

ACTIVITY IDEP 4: REVIEW AND UPDATE PROCEDURE FOR RECEIVING AND NOTIFYING MDEQ OF ILLICIT DISCHARGES AND ACTIONS TAKEN

MONITORING YEAR: 2018

Minimum Control Measure : Illicit Discharge Elimination Program Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · IDEP 3: Identify Illicit Connects/ Dry Weather Screening

OBJECTIVE

To receive reports and notify the MDEQ of illicit discharges, statewide, to the MDOT storm sewer system. To take action toward removing these discharges.

DESCRIPTION

Procedure for receiving and responding to reports of illicit discharges is established as part of Section 1512.71 of the Construction Permit Manual. Training to effectively implement the procedure will be conducted. Procedure for receiving reports from construction site runoff is already in place as part of the SESC Manual.

ANNUAL REPORTING

- Track the number of notices received and the follow-up actions taken.
- Track the number of illicit connections/discharges identified and removed.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Review the procedure for receiving the notice of an illicit discharge. (As stated in Activity IDEP-3, follow the illicit discharge protocol for 100% of the illicit discharges identified).	A notification of procedure method will be posted on the MDOT Stormwater website.
Annual Assessment: The review is scheduled to be completed in 2019.	
Update procedure for notifying MDEQ of illicit connections and discharges.	The developed procedure will be sent in a notice to appropriate MDOT staff, identified in the responsible party, by the Stormwater Program Manager.
Annual Assessment: The updated procedure is scheduled to be developed in 2019.	

ACTIVITY IDEP 5: DEVELOP PROCEDURE FOR EVALUATING AND DETERMINING THE OVERALL EFFECTIVENESS OF THE IDEP

MONITORING YEAR: 2018

Minimum Control Measure : Illicit Discharge Elimination Program Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · IDEP 3: Identify Illicit Connects/ Dry Weather Screening · IDEP 4: Notification of MDEQ of Illicit Discharges

OBJECTIVE

Develop a procedure that will determine the effectiveness of the IDEP program to effectively eliminate illicit discharges.

DESCRIPTION

A procedure for assessing the effectiveness of the IDEP program will be developed. The procedure will be put in place and evaluated annually.

ANNUAL REPORTING

- Report number of illicit connection and discharge notices and resolutions
- Report trends in the number of notices and resolutions

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Report number of notices and resolutions per year.	Notices to be reported in the Annual Report
Annual Assessment: Eight illicit discharges were investigated and/reported in 2018 and are summarized in the IDEP 3 Activity Table.	
If any feedback on the program is given through stormwater contacts provided on the MDOT website, they will be forwarded to the Stormwater Program manager to compile in an archive. This archive can be monitored over time to determine the evolving comments and effectiveness of the program.	Stormwater contacts to forward any feedback on the stormwater program to the Stormwater Program Manager
Annual Assessment: No feedback was received in 2018.	

Appendix D – Post Construction Stormwater Management Activities

ACTIVITY POST CONSTRUCTION 1: UPDATE MAP OF KNOWN STRUCTURAL BMPS AND DEVELOP PROCESS FOR TRACKING NEW STRUCTURAL BMPS

MONITORING YEAR: 2018

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINSTRATION 1: Program Assessment and Reporting • POST CONSTRUCTION 2: Review and Update BMP Maintenance Requirements

OBJECTIVE

To develop a more complete map of the existing BMPs in Michigan and a system for reporting newly constructed BMPs.

DESCRIPTION

A map containing the most up to date BMPs installed in Michigan & system for tracking newly installed BMPs.

ANNUAL REPORTING

- Newly constructed BMPs to be included in the annual report.
- Updated map of known BMPs

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Develop map of all known BMPs in the state	Map will appear in the Annual Report
Annual Assessment: A map of all BMPs in the state was compiled in 2018. This map has been updated to reflect BMPs that were constructed in 2018 and reported to the Stormwater Program Manager to compile the annual report. The map is available on the following page.	
Develop form of means for communicating newly constructed BMPs to the Stormwater Program Manager	Form to be distributed to all TSC Region offices by the Stormwater Program Manager.
Annual Assessment: The Stormwater Program Manager is provided a list of PC-BMPs that were constructed in the previous year in each region as part of the call for the stormwater annual report. Reporting staff find that this method is more preferable than a separate form.	
Newly constructed BMPs will be submitted using the developed form to the Stormwater Program Manager.	Form given to the Stormwater Program Manager by the TSC Region Managers on an annual basis. New BMPs to be listed in the Annual Report.
Annual Assessment: New BMPs that were constructed in 2018 have been identified in the attached table.	
Update map of known BMPs in the state	Map will appear in the Annual Report
Annual Assessment: The most recent version of the BMP map is available on the following page.	

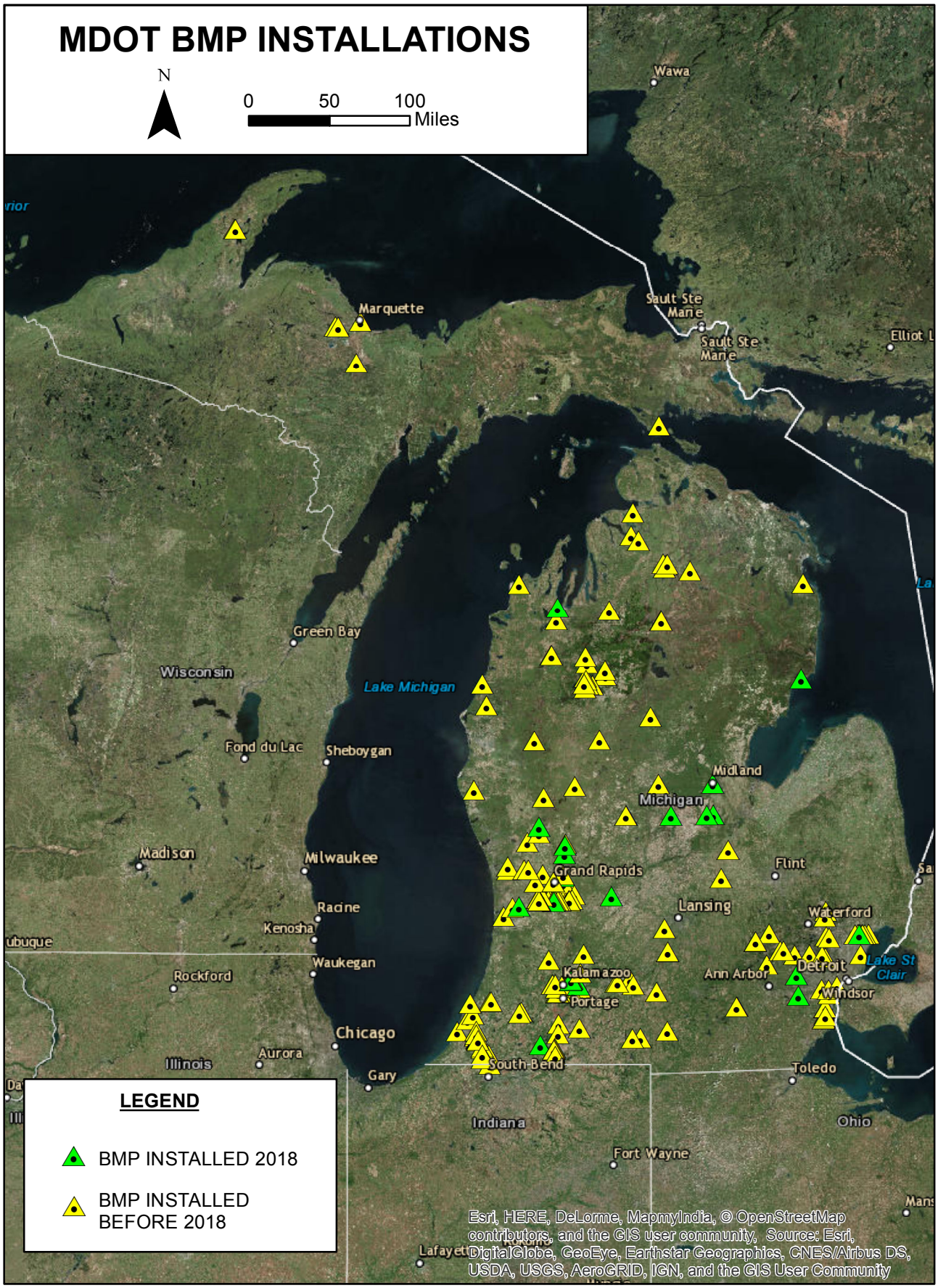

MDOT BMP INSTALLATIONS
N
0
50
100
Miles
Wawa
Marquette
Sault Ste Marie
Sault Ste Marie
Green Bay
Wisconsin
Lake Michigan
Fond du Lac
Sheboygan
Midland
Michigan
Madison
Milwaukee
Grand Rapids
Flint
Racine
Kenosha
Lansing
Waterford
Waukegan
Rockford
Kalamazoo
Ann Arbor
Detroit
Lake St Clair
Portage
Windsor
Chicago
Aurora
Illinois
South Bend
Gary
Toledo
Indiana
Ohio
Fort Wayne
Lafayette
LEGEND
BMP INSTALLED 2018
BMP INSTALLED BEFORE 2018
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Table D1: 2018 BMP Construction Projects		
Region	**Location**	**Type**
Bay	**JN 116505/117411/128674, M-46**	**Mill & resurface with drainage, we installed swale ditching, storm sewers, modified underdrains, and multiple catch basins in a row for sediment retention.**
Bay	**JN 118951, M-46 in St. Louis**	**Extra deep sumps installed.**
Bay	**JN 119064, M-20 over the Tittabawassee River Bridge**	**Extra deep sumps installed.**
Grand	**JN 123309 Park and Ride, US-131 at 68th Street in Wyoming**	**Use of: silt fence, inlet protection, and leaching basins. A vegetated bioswale was incorporated in the island.**
Grand	**JN 117992 US-131 from 10-Mile Road to M-57**	**Use of: sediment traps, stone check dams, and plastic check dam structures, silt fence, concrete spillways, downspouts, and stone riprap.**
Grand	**JN 119012 US-131 from 14-Mile Road to Cedar Springs Ave.**	**Bank drains installed at 14-Mile Rd bridge slope along with tree plantings.**
Grand	**JN 117874 Saranac Rest Area**	**Project included: tree plantings, lawn establishment, native pollinator seed bed establishment.**
Grand	**JN 109771 196 Bridge over Grand River in Grand Rapids**	**Project include: tree plantings, turf establishment, silt fence.**
Grand	**JN 118166 M-37 in Grant**	**Replaced existing storm sewer system with the inclusion of 2 ft sumps.**
Grand	**JN 201572 1-196 BL at I-196/M-121 Zeeland**	**New storm sewer with 4 ft sumps and new ditches, check dams, and riprap.**
Metro	**JN 111361: M-59: M-53 to Romeo Plank**	**Three new stormwater basins constructed and expansion of a fourth existing stormwater basin.**
Metro	**JN 201878: Old M-14 @ McClumpha**	**Installed 46 feet of permanent check dams.**
Metro	**JN 132804: I-94 @ Belleville**	**Installed 30 feet of permanent check dams.**
North	**JN112946 on US-23 in Iosco County**	**Sixteen (16) biorentention basins were constructed between Tawas Beach Road and Aulerich Road.**

Table D1: 2018 BMP Construction Projects		
Region	**Location**	**Type**
Southwest	**JN 112356, M-40 at Bair Lake**	**The project included drainage improvements and 4 ft deep storm sewer sumps.**
Southwest	**JN 132993, M-96 at 33rd St.**	**The project included 4 ft deep storm sewer sumps.**
Superior	**JN 115866 US-2/41 and M-35, Escanaba Bridge Project**	**The project modified valley gutter and pre-sloped trench drain. Some outlets also have baffles. This is a 2-year project and we will report on this after the 2018 season.**
Superior	**JN 113854 US-2, Oss Road**	**Project includes three new drainage structure with 700 ft of curb and gutter that drain into a vegetated swale.**
University	**I-96 in Ingham and Livingston Counties**	**In addition to standard soil erosion and sedimentation control measure BMPs, the project also used permeable runoff structures instead of stone check dams.**
University	**Old US-27 near Stoll Rd in Clinton County**	**Widening and resurfacing, sediment logs installed on the west side of Old US-27 along county drain near Stoll Rd.**

ACTIVITY POST CONSTRUCTION 2: REVIEW AND UPDATE MAINTENANCE REQUIREMENTS FOR MDOT BMPS

MONITORING YEAR: 2018

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · POST CONSTRUCTION 1: Update Map of Structural BMPs · POLLUTION PREVENTION 4: Track Road Maintenance Activity

OBJECTIVE

To protect receiving water quality statewide by reviewing and updating maintenance requirements for permanent MDOT-approved BMPs.

DESCRIPTION

Updated procedures for the continued maintenance of BMPs.

ANNUAL REPORTING

· Discuss updates to the maintenance requirements

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Review Maintenance Performance Guides and update accordingly.	Develop recommendations based on the review. To be given to the Stormwater Program Manager and documented in the Annual Report.
Annual Assessment: This measurable goal will be a focus for 2019.	
Develop and implement procedures for maintaining permanent BMPs not already having a maintenance procedure.	Newly developed procedures will be documented by the Stormwater Program Manager
Annual Assessment: This measurable goal will be a focus for 2019.	
Develop and implement a procedure for maintaining permanent BMPs after acceptance of BMP for use on MDOT projects	Newly developed procedures will be documented by the Stormwater Program Manager
Annual Assessment: For each new BMP constructed in 2018, a maintenance procedure was developed on a site specific basis.	
Notify appropriate staff of changes to guides.	Notification to be sent out to the appropriate staff via email as needed.
Annual Assessment: As guides are created/updated, appropriate staff will be notified.	
Maintain existing permanent BMPs according to existing MDOT procedures.	BMPs will be inspected every 5 years by a consultant to ensure proper maintenance.
Annual Assessment: BMPs are maintained according to the maintenance plans and are inspected on a rotating five year basis. In 2017, 39 BMPs were inspected to ensure proper maintenance.	

ACTIVITY POST CONSTRUCTION 3: DEVELOP PROCEDURE TO SELECT AND APPLY BEST MANAGEMENT PRACTICES (BMPs) FOR STORMWATER MANAGEMENT ACTIVITIES (POST-CONSTRUCTION) AND IMPLEMENT PROCEDURES
MONITORING YEAR: 2018

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINSTRATION 1: Program Assessment and Reporting • POST CONSTRUCTION 1: Update Map of Known Structural BMPs and Develop Process for Tracking new Structural BMPs • POST CONSTRUCTION 2: Review and Update Maintenance Requirement for MDOT BMPs • POST CONSTRUCTION 4: Achieve Water Quality and Channel Protection Compliance • POST CONSTRUCTION 6: Update Drainage Manual • POLLUTION PREVENTION 1: BMP Inspections

OBJECTIVE

To develop a procedure for selecting, applying and maintaining permanent BMPs for selected MDOT projects statewide. Implementing these procedures will protect receiving water quality.

DESCRIPTION

Development of selection procedure for applying BMPs for stormwater management activities.

ANNUAL REPORTING

- Report completion of BMP selection and pollutant discharge reduction estimate tools.
- Track the permanent BMPs selected for earth-disturbing projects using existing databases.
- Track permanent BMP installations, maintenance, and modifications.
- Track employee training on BMP selection and maintenance.
- Report pollutant discharge education based on theoretical BMP performance.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Update procedures for selecting permanent BMPs.	A screening tool for selecting BMPs will be posted on the MDOT stormwater website.
Annual Assessment: A draft version of the BMP screening tool has been completed and is being tested for accuracy with MDOT projects. It is currently available on the MDOT intranet site.	
Develop a procedure to estimate pollutant discharge reduction based on theoretical BMP performance.	The BMP screening tool will incorporate a procedure for estimating pollutant discharge reductions.
Annual Assessment: The version of the BMP screening tool distributed to MDOT designers suggests structural BMPs based on the pollutant reduction requirements onsite. The tool provides a scoping level cost estimate of potential BMPs based on the relative risk of the site.	
Issue staff guidance for the screeing tool.	A document outlining the instructions for the tool will be distributed to the appropriate stormwater related staff.
Annual Assessment: This was completed during 2017 and is being monitored for effectiveness & accuracy.	

Implement procedures to select permanent BMPs.	Procedures will go into effect on the first of the year.
Annual Assessment: This was completed in 2017.	
Evaluate existing procedures for applying and maintaining permanent BMPs.	Recommendations based on the evaluations will be given by the responsible party to the Stormwater Program Manager.
Annual Assessment: This was completed in 2017.	
Update and/or develop procedures for applying and maintaining permanent BMPs.	Approved recommendations will be implemented into procedures.
Annual Assessment: This measurable goal is ongoing.	
Document procedures and issue staff guidance.	Updated procedures and guidance will be emailed to stormwater related staff.
Annual Assessment: This measurable goal is ongoing.	
Implement procedures to select, apply, and maintain permanent BMPs.	Updated or new procedures will be implemented for the selection, application, and maintenance of BMPs.
Annual Assessment: The BMP screening tool was issued to relevant MDOT staff in 2017 and involves the procedure of how to select and apply structural BMPs. The maintenance of BMPs will be an ongoing goal.	
All projects will be evaluated for permanent stormwater BMP inclusion during scoping and early design.	BMPs identified for inclusion in new projects will be outlined in the Stormwater Annual Report.

Annual Assessment: There were several projects which incorporated permanent, structural BMPs in 2018:

- JN 123309 Park and Ride Project off US-131 at 68th Street in Wyoming: Several temporary measures including: silt fence, inlet protection, and leaching basins. There was a structural BMP on this project, as well, which was a vegetated bio swale in the island.
- JN 111361: M-59: M-53 to Romeo Plank: Three new stormwater basins constructed as well as an expansion of a fourth, existing stormwater basin.
- JN 201878: Old M-14 @ McClumpha: Installed 46 feet of permanent check dams.
- JN 132804: I-94 @ Belleville – Installed 30 feet of permanent check dams.
- JN112946 on US-23 in Iosco County: Sixteen bioretention basins were constructed between Tawas Beach Road and Aulerich Road.
- JN 113854 US-2, Oss Road: Three new drainage structures with 700 ft of curb and gutter that drains into a vegetated ditch.

There were several other projects which incorporated temporary measures or general stormwater improvements in 2018 including:

- JN 116505/117411/128674, M-46: A mill & resurface project with drainage improvements including the installation of swale ditching, storm sewers, modified underdrains, and multiple catch basins in a row for sediment retention.
- JN 118951, M-46 center left turn lane in St. Louis, included the installation of extra deep sumps.
- JN 119064, M-20 over the Tittabawassee River bridge and approach replacement, included the installation of extra
- JN 117992 US-131 concrete re-construct from 10-Mile Road to M-57 included: sediment traps, stone check dams, plastic check dam structures, silt fence, concrete spillways, downspouts and stone riprap and channel utilized deep sumps.
- JN 119012 US-131 reconstruct from 14-Mile Road to Cedar Springs Ave. included several general stormwater improvements including: bank drains installed at 14-Mile Road bridge slope, tree planting.
- JN 117874 Saranac Rest Area landscaping had several temporary measures including: tree planting, lawn establishment, native pollinator seed bed establishment.
- JN 109771 196 Bridge over Grand River in Grand Rapids had several temporary measures including: tree planting, turf establishment, silt fence.
- JN 118166 M-37 in Grant Michigan included the replacement of existing storm sewer system including 2’ sumps.
- JN 201572 1-196 BL at I-196/M-121 Zeeland included new storm sewer with 4’ sumps and new ditches, check dams and riprap.

- JN 112356, M-40 at Bair Lake: Several various drainage improvements, including 4’ deep storm sewer sumps.
- JN 132993, M-96 at 33rd St.: Several drainage improvements, including 4’ deep storm sewer sumps.
- JN 115866 US-2/41 and M-35, Escanaba Bridge Project: Modified valley gutter and pre-sloped trench drain, there are some outlets that will have baffles. This is a 2-year project and we will report on this after the 2018 season.
- I-96 resurfacing and cable rail installation projects in Ingham and Livingston Counties; in addition to standard SESC BMPs, also used permeable runoff structures instead of stone check dams.
- Old US-27 near Stoll Road in Clinton County, widening and resurfacing; sediment logs installed on west side of Old US-27 along county drain near Stoll Road.

For more information, see Activity Post Construction 1.

ACTIVITY POST CONSTRUCTION 4: COMPLY WITH PERFORMANCE STANDARDS FOR NEW DEVELOPMENT AND RE-DEVELOPMENT PROJECS TO THE MAXIMUM EXTENT PRACTICABLE
MONITORING YEAR: 2018

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION1: Program Assessment and Reporting · POST CONSTRUCTION 3: Develop Selection Procedure for BMPs · POST CONSTRUCTION 5: Review Projects Discharging to Impaired Waters · POST CONSTRUCTION 7: Site Plan Review for Post Construction Projects

OBJECTIVE

Achieve compliance standards for water quality and channel protection issued by the United States Environmental Protection Agency for all new development and redevelopment projects.

DESCRIPTION

As designated by the United States Environmental Protection Agency, all new development and redevelopment projects must comply with water quality and channel protection standards. Compliance with channel protection and water quality standards will be estimated, per project, using the BMP selection tool as a preliminary analysis tool, as described in Activity Post Construction 3.

ANNUAL REPORTING

- Post construction projects achieving standards will be documented in the Annual Report
- All newly constructed BMPs (as well as modifications, replacements, or enhancements of BMPs) will be documented in the Stormwater Annual Report

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Desktop assessment of new development and redevelopment projects using the BMP screening tool in preliminary analysis.	Results from the analysis will be submitted for each project to the Stormwater Program Manager.

Annual Assessment: The first draft of the BMP selection tool has been completed and distributed to MDOT designers. Throughout 2018, the tool was be tested for future projects, with the goal of this tool being used in the preliminary analyses of all projects. The tool was tested on several projects with reasonable results. Training was provided to 319 unique internal users with a total of 582 total page hits.

Meet compliance standards goals to the maximum extent practicable. Compliance standard goals include: · BMPs are designed based on site constraints to reduce post development suspended solids loadings · Treat runoff from 90% of all runoff producing storms · When impervious area is increased, post-construction runoff rate and volume match pre-development conditions as closely as possible for storms up to the two year, 24 hour event · Addressing specific pollutants on a site specific basis	Results from the analysis will be submitted for each project to the Stormwater Program Manager.

Annual Assessment: All newly constructed BMP projects listed in Activity Post-Construction 1 meet either the water quality or channel protection standards prior to 2020.

Document the modification, replacement, or enhancement of BMPs.	A description of the work done will be given to the Stormwater Program Manager for inclusion in the Annual Report

Annual Assessment: One existing BMP was modified, replaced or enhanced in 2018. This was an existing stormwater basin on the following project: JN 111361: M-59: M-53 to Romeo Plank

ACTIVITY POST CONSTRUCTION 5: REVIEW PROJECTS WITH STORMWATER DISCHARGES TO WATER BODIES WITH PROMULGATED TOTAL MAXIMUM DAILY LOADS (TMDLs)

MONITORING YEAR: 2018

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINSTRATION 1: Program Assessment and Reporting • POST CONSTRUCTION 3: Procedure to Select BMPs • POST CONSTRUCTION 4: Water Quality and Channel Protection • POST CONSTRUCTION 6: Update Drainage Manual

OBJECTIVE

To develop a procedure for the review of projects with stormwater discharges to water bodies with a promulgated TMDL and to and implement stormwater controls statewide to meet responsibilities established by TMDLs to the MEP.

DESCRIPTION

An interactive map showing trunklines crossing 303(d) listed water bodies will be beneficial in the planning of MDOT projects to ensure compliance with water quality standards of discharges. All new development and redevelopment projects will use this map as a tool to assess if stormwater discharges to TMDL water bodies.

ANNUAL REPORTING

- Report completion of interactive mapping system on MDOT Stormwater Website
- Track location of projects discharging to waters with TMDL
- Track compliance with TMDL requirements.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Develop interactive mapping system on the MDOT Stormwater Web Site showing MDOT trunklines crossing 303(d)-listed water bodies.	Completed tool available to MDOT staff.
Annual Assessment: This measureable goal was completed in 2016 and is available to MDOT design staff. This newly created GIS tool allows users to enter their project limits and see if they intersect with 303(d) listed waters.	
Review all new projects that discharge to waters of the state with a promulgated TMDL.	Projects to be reviewed by environmental staff as necessary.
Annual Assessment: All projects were reviewed in 2018 that could discharge to a waters of the state. Each was reviewed for applicable TMDL requirements.	
Evaluate various options to mitigate projects discharging to TMDL water bodies. BMPs are to be implemented to comply with stormwater related requirements to meet TMDLs.	Projects to be evaluated by environmental staff and an internal stormwater committee as needed.
Annual Assessment: One projects with TMDLs occurred was encountered in 2018. The project installed 46 ft of permanent check dams to comply with the TMDL. As future projects with TMDLs are encountered, this measurable goal will also be adhered to.	
Install and maintain BMPs on projects intersecting TMDL waterbodies.	Projects to be evaluated by environmental staff and an internal stormwater committee as needed.
Annual Assessment: One project with TMDLs occurred was encountered in 2018. The project installed 46 ft of permanent check dams to comply with the TMDL. As future projects with TMDLs are encountered, this measurable goal will also be adhered to.	

ACTIVITY POST CONSTRUCTION 6: PERIODICALLY UPDATE DRAINAGE MANUAL

MONITORING YEAR: 2018

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · PUBLIC INVOLVEMENT 3: Coordinate with MPOs · POST CONSTRUCTION 3: Selection Procedure for BMPs · POST CONSTRUCTION 4: Water Quality and Channel Protection · POST CONSTRUCTION 5: Review Projects Discharging to Impaired Waters

OBJECTIVE

To update MDOT's policies and procedures for the design of BMPs. Other fields to be reviewed include the construction, maintenance, and demolition of BMPs as outlined in the manual.

DESCRIPTION

The existing Drainage Manual will be reviewed and revised as needed to include the latest details of the stormwater management program. Notification and guidance will be given to appropriate MDOT employees and job-related public.

ANNUAL REPORTING

· Track changes made to the Drainage Manual.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Assess the need to update the Drainage Manual. The first update of the Drainage Manual will include the new source of rainfall data of the MDEQ's 2006 memo providing the 90 percent annual non-exceedance storm statistics.	Proposed changes to be drafted by the environmental staff.
Annual Assessment: The Drainage Manual was assessed in 2016. The result of the assessment is that the manual needs to be updated to reflect the current status of the MDOT stormwater program.	
Update the Drainage Manual. Changes to manual must be approved by the Engineering Operations Committee (EOC).	Proposed changes to be delivered to the EOC for approval.
Annual Assessment: Instead of updating the Drainage Manual, a document named the Post-Construction Stormwater BMP Design Guidance has been created to supplement the Drainage Manual and aid MDOT designers in the design of structural stormwater BMPs. A draft of the document was created in 2017 and finalizing the document is a goal of 2019.	
Notify appropriate staff of changes to the manual.	Updated drainage manual will be distributed to the appropriate staff.
Annual Assessment: Once the document is completed, MDOT staff will be notified.	

ACTIVITY POST CONSTRUCTION 7: SITE PLAN REVIEW FOR PROJECTS

MONITORING YEAR: 2018

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • POST CONSTRUCTION 4: Compliance with Water Quality and Channel Protection Standards

OBJECTIVE

Ensure compliance with post-construction stormwater requirements through a review process of site plans for installation, operation, and maintenance.

DESCRIPTION

As designated by the MDEQ MS4 Permit, MDOT must submit site plans for approval for each project subject to the post-construction stormwater runoff control requirements. Reviews will allow MDOT to ensure that the finished project will sufficiently meet post-construction stormwater runoff program requirements and long-term operation and maintenance of BMPs.

ANNUAL REPORTING

- Document number of projects submitted for review

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Initial site plans of post-construction stormwater BMPs shall be submitted for review to MDOT stormwater staff.	Site plan reviews by stormwater staff.
Annual Assessment: In 2018, no plans were submitted to the MDOT stormwater staff as the new stormwater permit was still being developed. As plans are developed in the future, they shall be submitted for review by stormwater staff.	
Develop procedure for the site plan review and approval process. Procedure shall include a checklist of specific criteria to be used by plan reviewers.	Procedure shall be distributed to appropriate staff by the MDOT Stormwater Program Manager.
Annual Assessment: This measurable goal will be a focus for the year 2019.	

Appendix E – Construction Stormwater Runoff Control Activities

ACTIVITY CONSTRUCTION 1: REVIEW INTERNAL QUALITY ASSURANCE/QUALITY CONTROL (QAQC) PROTOCOL FOR CONSTRUCTION STORMWATER RUNOFF CONTROL **MONITORING YEAR: 2018**	
Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · POST CONSTRUCTION 4: Water Quality and Channel Protection · POST CONSTRUCTION 5: Review Projects Discharging to Impaired Waters · IDEP 1: List of Construction Projects and Maintenance Activities
OBJECTIVE	
To improve the effectiveness of temporary BMPs statewide through internal QAQC for construction stormwater control.	
DESCRIPTION	
Development of the QAQC protocol is underway and will be submitted to the Environmental Committee for approval.	
ANNUAL REPORTING	
· Track number and result of internal reviews · Track actions taken per MDOT/SESC Manual.	
MEASURABLE GOALS	
MEASURABLE GOAL	**MEASURE OF ASSESSMENT**
Review the QAQC protocol for construction stormwater control.	Revisions given to the Stormwater Program Manager by the responsible party.
Annual Assessment: 40 QAQC reviews were completed on plans and 27 reviews were done for construction.	
Update the QAQC protocol for construction stormwater control as necessary.	Final QA/QC protocol given to the Stormwater Program Manager by the responsible party.
Annual Assessment: This effort was done for the reviews completed in 2018.	
Notify the appropriate staff of changes to the protocol.	Notification and guidance documents to be distributed to staff members.
Annual Assessment: This effort was done for the reviews completed in 2018.	

Appendix F – Pollution Prevention/Good Housekeeping Activities

ACTIVITY POLLUTION PREVENTION 1: BMP INSPECTIONS MONITORING YEAR: 2018	
Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting
OBJECTIVE	
Routine inspections of MDOT structural BMPs to ensure compliance with various components of the permit.	
DESCRIPTION	
BMPs will undergo inspection to ensure that facilities comply with developed maintenance procedures.	
ANNUAL REPORTING	
· Summary of all inspections done and recommendations for each BMP.	
MEASURABLE GOALS	
MEASURABLE GOAL	**MEASURE OF ASSESSMENT**
An inspection of BMPs shall be conducted at least once every five years to ensure appropriate maintenance.	Inspection reports to be given to the Stormwater Program Manager.
Annual Assessment: 39 BMPs were inspected during the 2018 monitoring period. See attached BMP Inspection Summary. See map in the inspection report for a BMP inspections schedule for all years in the permit cycle.	
Items identified during inspections as needing attention shall be addressed.	Stormwater Program Manager to notify maintenance crews and follow up, as necessary.
Annual Assessment: Recommendations provided in the 2018 summary will be addressed during 2019.	
As needed, identify BMPs to be modified, replaced, or enhanced.	BMPs identified for modification, replacement, or enhancement will be outlined in the annual report.
Annual Assessment: On an as needed basis throughout the permit cycle, BMPs will be modified, replaced or enhanced.	

Stormwater Best Management Practices - 2018 Inspections Summary

Stormwater BMPs are inspected every 5 years on a rotating basis. 39 of these BMPs were inspected in 2017. **Figure 1** shows the locations of BMPs inspected in 2018 as well as a tentative schedule for future inspections.

Each components of the BMP such as fencing, inlet and outlet conditions, mowing, trash and debris, etc. is inspected and scored on a scale from 1-9. An average score is then taken and documented for each BMP. This value is used to track the BMP's condition over time. Recommendations are also given based on the condition of the BMP. A summary of each of the BMPs inspected in 2018 is listed in **Table 1**.

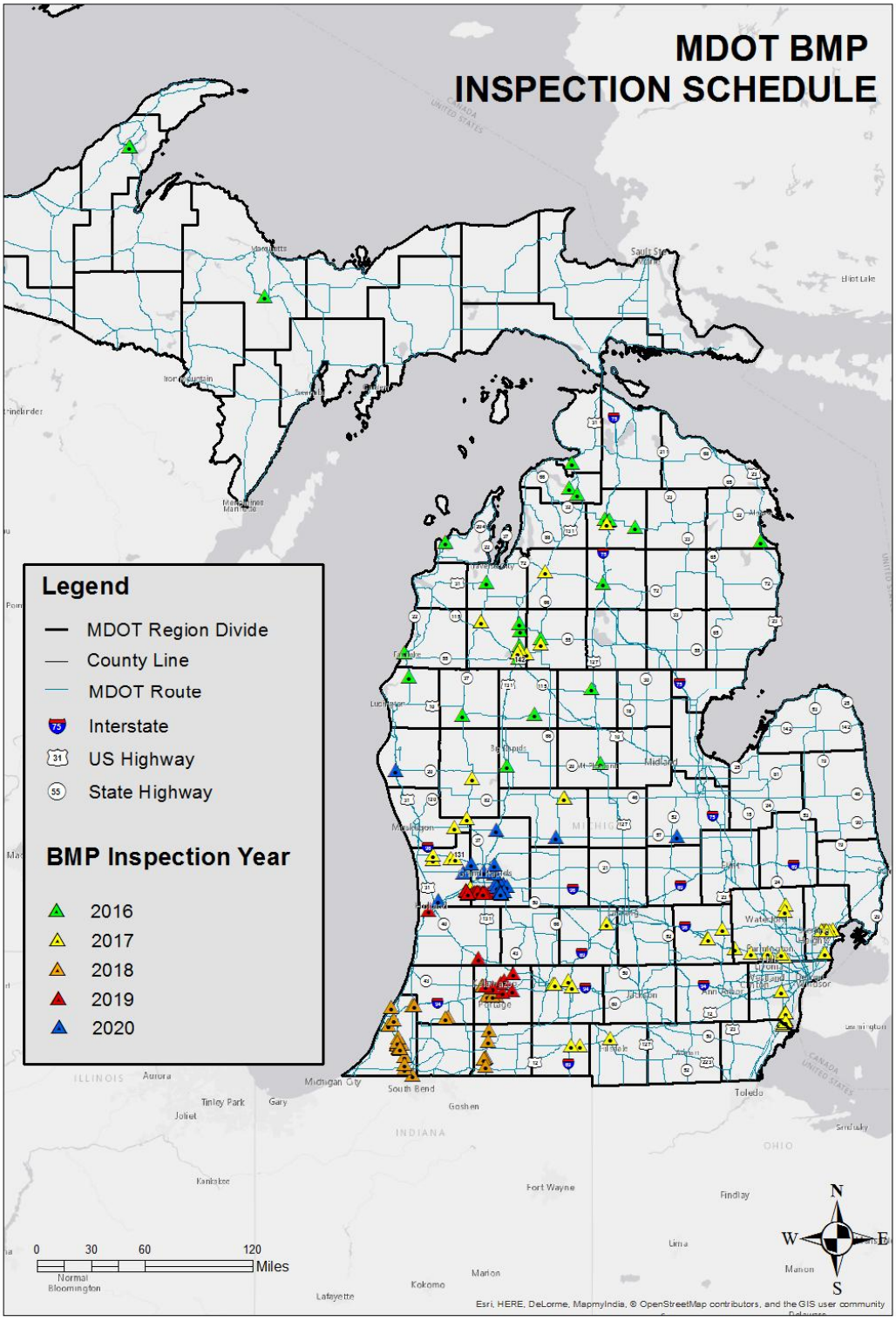


Figure 1 - BMP Inspection Schedule

Table 1: BMP Inspection Summary, 2018				
County	**Location**	**Structures Inspected**	**Scoring Summary**	**Recommendations**
Berrien	**I-94 @ Mill Race Creek in SW quadrant (2000 ft east of M-140)**	**Drop Structure**	**7.21**	**Remove trash and sediment regularly.**
Berrien	**I-94 over St. Joseph River in SE quadrant**	**Detention Basin**	**5.00**	**Replace riprap at inlet and outlet channels. Remove sediment at basin bottom. Repair/replace fencing. Regrading will be necessary if intention is for this to function as a basin.**
Berrien	**I-94 @ Napier Ave.**	**Detention Basin**	**4.93**	**Take out large trees, maintain access road. Maintain inlets and outlets for inspections. Remove dense vegetation from fencing and replace downed fencing on NW basin side.**
Berrien	**I-94 Rest Area**	**Stormwater Treatment Device**	**6.67**	**Remove trash regularly at Aquashield, replace riprap, remove sediment.**
Berrien	**M-139 over St Joseph River Bridge**	**Rain Gardens**	**7.20**	**Clear sediment from all inlets, remove debris from basin interior. Remove trash.**
ae	**US-31 St. Joseph River in NE quadrant**	**Detention Basin**	**7.14**	**Maintain mowing practices. Remove sediment, trash and debris regularly (especially from IN-2).**
Berrien	**US-31 BR @ Woodlawn & Church St. (N of State Line)**	**Detention Basin**	**5.87**	**Replace fence to prevent neighbors from entering basin as trespassing is degrading water quality. Remove trash regularly.**
Berrien	**M-63 @ NE quadrant of Maple Ln. (2000 ft north of Maple Ln)**	**Drop Structure**	**4.64**	**Modify BMP system to address severe erosion and unstable conditions at Lake Michigan bluff. Consider providing enhanced stormwater treatment upstream to reduce erosion.**

Table 1: BMP Inspection Summary, 2018				
County	**Location**	**Structures Inspected**	**Scoring Summary**	**Recommendations**
Berrien	**US-31 @ Lemon Creek Tributary in NE quadrant S of Old US-31 on E side US-31**	**Detention Basin**	**5.85**	**Clear thick vegetation to allow better access to structures, mow access drive, clear sediments from OUT-1, clear sediment from other structures. Remove trash regularly.**
Berrien	**US-31 @ Lemon Creek Tributary in SE quadrant S of Old US-31 on E side US-31**	**Detention Basin**	**6.21**	**Continue mowing practices, clear outlet structure, address erosion issues, replace gate, remove trash and sediment regularly.**
Berrien	**US-31, Station 507 (US-12 to State Line)**	**Detention Basin**	**6.90**	**Maintain current mowing practices, remove trash and sediment regularly.**
Berrien	**US-31 @ Lake Chapin Rd in SW quadrant, Station 740**	**Detention Basin**	**6.65**	**Remove trash and sediment regularly. Manage vegetation to allow ease of access to structures.**
Berrien	**US-31 @ Snow Rd in WNW quadrant, Station 789**	**Detention Basin**	**6.65**	**Clear sediment from structures, remove trash regularly.**
Berrien	**US-131 at Winn Rd**	**Detention Basin**	**6.21**	**Manage vegetation for ease of access, remove trash, remove sediment at inlets.**
Berrien	**US-31, Station 539**	**Detention Basin**	**6.72**	**Clear sediment and trash regularly. Address erosion concerns.**
Berrien	**US-31 @ Snow Rd in ESE quadrant, Station 780**	**Detention Basin**	**5.90**	**Improve access to inlets from gate. Fix gate. Remove trash and sediment.**
Berrien	**US-31 @ Lake Chapin in NE quadrant, Station 767**	**Detention Basin**	**5.63**	**Clear thick vegetation to allow better access to structures, mow access drive, clear sediments from OUT-1, clear sediment from other structures. Remove trash regularly.**

Table 1: BMP Inspection Summary, 2018				
County	**Location**	**Structures Inspected**	**Scoring Summary**	**Recommendations**
Berrien	**US-31 @ Niles-Buchanan Rd in SE quadrant**	**Detention Basin**	**6.56**	**Remove sediment and trash.**
Berrien	**US-31 @ Old US-31 in SE quadrant**	**Detention Basin**	**6.71**	**Unclog inlets on overpass, remove overgrown vegetation from spillways and riprap-lined channel.**
Berrien	**US-31 @ Lake Chapin in SE quadrant, Station 753**	**Detention Basin**	**6.60**	**Remove trash and sediment. Manage vegetation, unbury structures.**
Berrien	**I-94 EB (Bridgeman to Stevensville)**	**Trench Drain and Leaching Basins**	**6.94**	**Remove trash regularly, remove sediments from structures at the beginning of spring and end of summer. Keep up mowing practices.**
Berrien	**US-31 @ Niles-Buchanan Rd in NW quadrant**	**Detention Basin**	**6.81**	**Remove sediment and trash.**
Kalamazoo	**I-94 at US-131 in NW Quad**	**Detention Basin**	**6.45**	**Remove sediment r, especially from structures. Remove trash regularly.**
Kalamazoo	**I-94 at US-131 W of SW Quad**	**Detention Basin**	**6.19**	**Remove trash and sediment regularly.**
Kalamazoo	**I-94 at 700 ft W of Lovers Lane on N side**	**Detention Basin**	**7.00**	**Clear sediments from inlet structures. Remove trash and sediment regularly.**
Kalamazoo	**I-94 at 12th St in NW Quad**	**Detention Basin**	**6.68**	**Regular trash and sediment removal. Sediment in Inlet Channel 3 should be removed.**
Kalamazoo	**I-94 at Oakland Dr in NE Quad**	**Detention Basin**	**5.96**	**Remove sediment and trash, remove trees from fencing.**

Table 1: BMP Inspection Summary, 2018				
County	**Location**	**Structures Inspected**	**Scoring Summary**	**Recommendations**
Kalamazoo	US-131 at I-94 in median N of I-94 (Portage Creek West Fork)	Detention Basin	6.63	Remove trash regularly, remove sediment from basin and structures.
Kalamazoo	US-131 at I-94 NE Quad	Detention Basin	6.79	Clear sediment from inlets, remove trash regularly.
Kalamazoo	M-43 @ 8th in NW quadrant	Retention Basin	6.13	Remove trash and sediment regularly. Fix erosion issues at inlet channels.
Kalamazoo	M-43 @ 8th in SE quadrant	Retention Basin	6.33	Remove trash and sediment regularly.
St. Joseph	US-131, 1500' north of M-216	Retention Basin	6.92	Could slope parking lot to drain better in future if ponding issues continue. Do not mow in Channel Inlet 1.
St. Joseph	US-131 @ Lover's Lane	Detention Basin	6.45	Remove trash regularly, address issues with inlets.
St. Joseph	US-131 North end of Constantine bypass	Detention Basin	6.85	Remove sediment and trash regularly, stop mowing in basin interior.
St. Joseph	US-131 @ Zerbe Rd	Detention Basin	7.50	Do not mow basin interior.
St. Joseph	US-131 @ inspection station	Detention Basin	7.40	Remove trash regularly, continue mowing practices.
St. Joseph	US-131@ US-131BR	Detention Basin	7.00	Remove trash regularly, investigate if inlets are functioning properly.
Van Buren	M-51 at Edgar Bergan Blvd. in SW quadrant	Retention Basin	5.82	Remove sediment, maintain vegetation, remove trash. Repair and replace riprap in weirs and overflow spillway.

Table 1: BMP Inspection Summary, 2018				
County	**Location**	**Structures Inspected**	**Scoring Summary**	**Recommendations**
Van Buren	**M-51 at 250 ft SW of N Mills St on N side**	**Retention Basin**	**7.00**	**Maintain side slopes and remove vegetation around IN-2.**

ACTIVITY POLLUTION PREVENTION 2: AUDIT THE POLLUTION INCIDENT PREVENTION PLAN (PIPP) REQUIREMENTS

MONITORING YEAR: 2018

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting

OBJECTIVE

Assure that vehicle maintenance activities statewide do not pollute stormwater runoff to the maximum extent practicable.

DESCRIPTION

Internal auditing of the PIPP will continue to be conducted and implemented.

ANNUAL REPORTING

- Summary of PIPP audits
- Document new programs, policies, procedures and information.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Conduct an audit of the PIPP requirements every three years.	Results of audit reported to Stormwater Program Manager

Annual Assessment:
Throughout 2018, the Safety and Security Administration conducted 16 environmental audits at various MDOT garages/facilities around the state. Environmental audits are required to be conducted at MDOT maintenance facilities at least once every three years to ensure environmental compliance and consistency with all State and Federal regulations. Part of the audit process includes looking at stormwater discharges and protection measures for polluting materials in place at each of the facilities. Every garage is required to have a site plan which includes information regarding the location of floor, roof and storm drains as well the direction of flow and discharge location. All wastewater coming from inside and around the facility is monitored by its direction of flow and where it is discharged to ensure that polluting materials do not reach the waters of the US. Major bodies of water, if any, that are in close proximity to the garages are noted on the site plan as well. Polluting materials that could cause harm to persons or the environment that are stored and/or used at garages are all documented in the PIPP which includes the name, location, quantity and pollution prevention measures in place for that specific material. If a large spill were to occur and polluting materials reached waters of the State, employees would follow the Environmental Emergency Spill Response Flowchart and contact the appropriate personnel. Protection of the environment and human health remains a top priority at all MDOT facilities.

Facilities visited included:
1. Houghton Garage
2. L'Anse Garage
3. International Bridge
4. Kalkaska Garage and Materials Testing Lab
5. Cadillac Special Crews Facility
6. Marion Garage
7. Reed City Garage
8. Mt. Pleasant Garage
9. Saginaw Eastside Garage
10. Aeronautics Facility
11. Charlotte Garage
12. Mason Garage

13. Detroit Maintenance Garage 14. Marshall Garage 15. Kalamazoo Garage 16. Southwest Region Maintenance Facility	
Follow-up on any delinquent plan requirements and revise appropriately.	Follow up to be confirmed to Stormwater Program Manager
Annual Assessment: This effort will be a focus for 2019.	
Formally accept the changes made to the PIPP.	To be made by the Stormwater Program Manager
Annual Assessment: This effort will be a focus for 2019.	

ACTIVITY POLLUTION PREVENTION 3: CONDUCT INSPECTIONS OF MAINTENANCE FACILITIES

MONITORING YEAR: 2018

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINISTRATION 1: Program Assessment and Reporting · POLLUTION PREVENTION 2: Audit PIPP Requirements

OBJECTIVE

Routine inspections of MDOT maintenance facilities to ensure compliance with various components of the permit.

DESCRIPTION

Maintenance facilities will undergo inspection to ensure that facilities comply with: good housekeeping for salt and sand storage, compliance with discharges from cutting, grinding, drilling, or hydro demolition of concrete or asphalt, and fleet maintenance activities.

ANNUAL REPORTING

· Summary of all inspections done and recommendations for each facility.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
An inspection of maintenance facilities shall be conducted at least once every five years. Salt and sand storage facilities, cross connections between storm sewer and sanitary sewer, the washing of vehicles, and labelling of outfall structures shall be inspected.	Reporting of each inspection provided to the Stormwater Program Manager
Annual Assessment: 7 maintenance facilities were inspected during the 2018 monitoring year. See attached summary for details and for a schedule of all inspections during the permit cycle.	
Recommendations shall be presented if practices are not in compliance with the permit.	Reporting of each inspection provided to the Stormwater Program Manager
Annual Assessment: In 2018, there were several issues found during inspections which were presented to the stormwater program manager. All maintenance facilities with noted issues were notified by the Stormwater Program Manager to schedule corrective actions.	
Maintenance facilities with provided recommendations shall address concerns within one year of the inspection.	The Stormwater Program Manager will work closely with maintenance facility personnel to ensure recommendations are incorporated.
Annual Assessment: Recommendations given for issues found during the 2018 inspections should be addressed in 2019.	

Maintenance Facilities – 2018 Inspections Summary

MDOT's Maintenance Facilities are inspected every 5 years on a rotating basis. Seven maintenance facilities were inspected in 2018. A map of the garages inspected in 2018 as well as the future inspection schedule is presented in **Figure 1**.

Maintenance Facilities were inspected for cross connections between the storm sewer and sanitary sewer systems as well as functionality and maintenance of each of these systems. Items identified as a risk during inspections were assessed for the probability of failure and the consequence of failure. Based on the scores given for each of these categories, items were determined to be high, moderate, or low risks. Recommendations for each of the findings are presented in the **Tables 1 -3**.

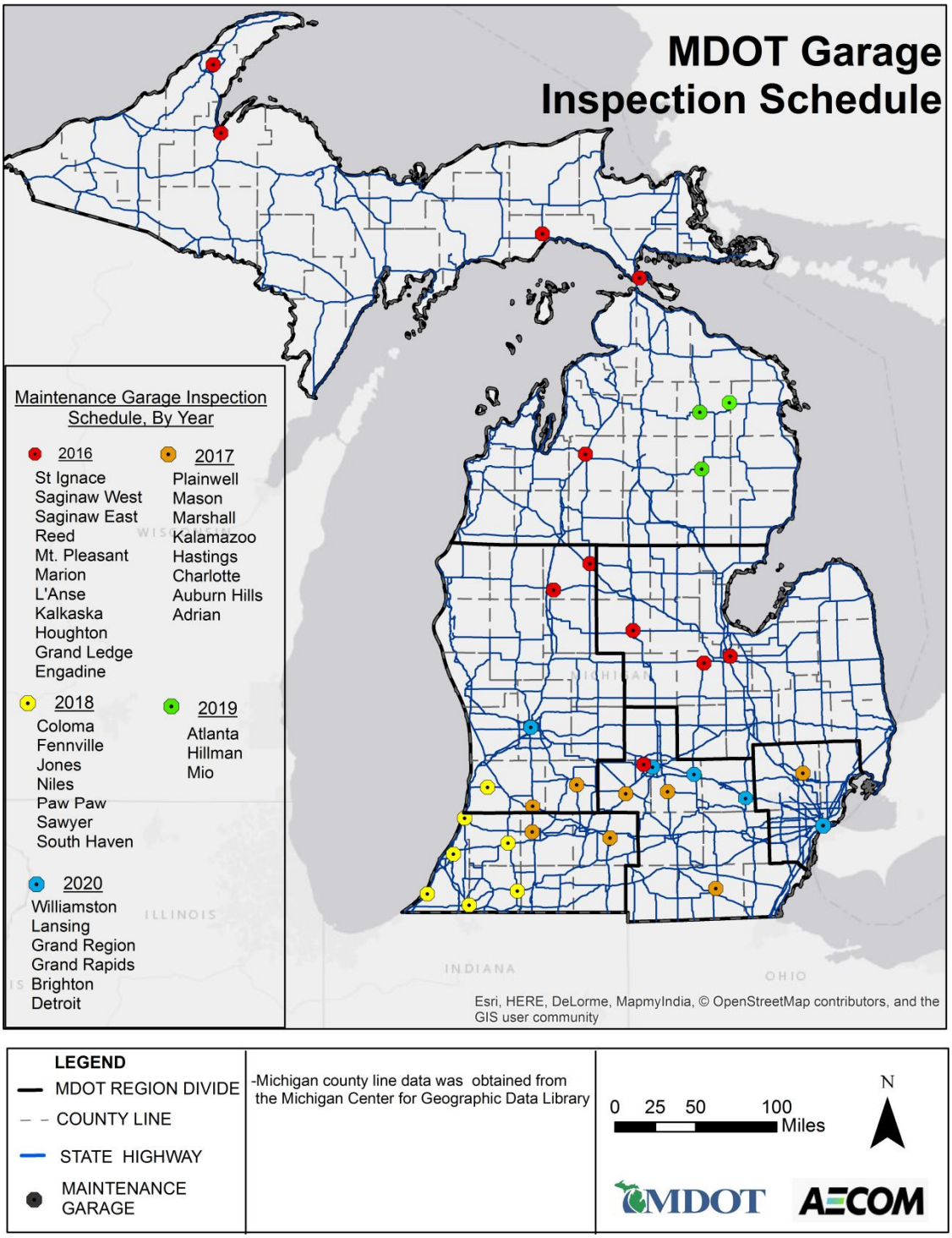


Figure 1 - Maintenance Facility Inspection Schedule

Table 1: Maintenance Facility Locations and Items with High Risk Ratings		
Location	**High-Risk Items**	**Recommendations**
Coloma	Storm sewer and sanitary system are connected.	Connect FD6 to FD2 to separate storm and sanitary sewer.
Coloma	Floor drain in maintenance garage discharges directly to environment.	Connect FD5 to FD2 to connect drain to sanitary sewer.
Jones	Pump at lagoon is broken and has frequent failures.	Replace pump with a slurry pump or equivalent to prevent frequent failure or install baffle wall in structure to prevent solid materials from clogging pump.

Table 2: Maintenance Facility Locations and Items with Moderate Risk Ratings		
Location	**Moderate- Risk Items**	**Recommendations**
Coloma	SS1 not draining, ponding water.	Check connection between SS1 to FD3. Could vacuum out structures or reset inverts.
Fennville	Sediment at catch basin covers.	At least twice per year, remove sediment from catch basin covers.
Fennville	Some small holes forming in liner at lagoon.	Patch holes in liner and replace if significantly degraded.
Jones	Stormwater ponding where no structures are present.	If parking lot is redone, grade such that water drains appropriately.
Jones	Sediment at CULV3 and spillway.	Clear sediment.
Jones	Several storm structures have structural integrity issues.	Investigate all storm structures and repair or replace those with issues.
Jones	Several sanitary structures have structural integrity issues.	Investigate all sanitary structures and repair or replace those with issues.
Jones	Some small holes forming in liner at lagoon.	Patch holes in liner and replace if significantly degraded.
Niles	Sediment and debris at culverts.	Clear sediment and debris from all culvert inlets and outlets.
Niles	Sediment and debris inside and outside of storm catch basins and manholes.	Clear sediment and debris from storm structures.
Paw Paw	Potential contaminants located outside maintenance garage.	Eliminate potential sources of contamination such as waste oil sources on the outside of the maintenance garage near RD8.
Paw Paw	No cover on SS3.	Add cover or cap to SS3.
South Haven	Pipes from several machines discharge into FD3.	Ensure discharge pipes from all machinery and other sources of contamination are discharged to FD2 and not FD3.
South Haven	Ponding water at storage building.	Install floor drains in storage building in southwest corner of the site (with white roof) if ponding water becomes an issue or hazard. Could connect to SS3 or FD1.

Table 3: Locations and Items with Low Risk Ratings		
Location	**Low-Risk Items**	**Recommendation**
Coloma	Incorrect covers on structures that drain to stormwater wetland.	Change covers on ST1, ST2, ST3, ST4 to open grates.
Fennville	Broken end section on RD2.	Replace end section on RD2.
Fennville	Small opening in storage building, leading to parking lot.	Plug opening in salt dome.
Fennville	Abandoned structures still present onsite. Water ponding at structures.	Remove ST4, ST5, or ST6 or plug structures.
Fennville	Sediment at manhole covers.	At least twice per year, remove sediments from manhole covers.
Jones	Several abandoned structures pond water.	Remove abandoned structures.
Niles	Accumulated materials at FD7 and FD8.	Clear accumulated materials from FD7 and FD8. If FD7 and FD8 are found to drain to ST5 after cleaning, remove this connection and connect FD8 to SS1 or FD6.
Paw Paw	Erosion issues at downspouts.	If erosion issues persist at downspouts, consider extending downspouts such that the elbow reaches the ground to prevent erosive forces. Riprap could also be added to prevent erosion.
Sawyer	Incorrect cover on ST10.	Change cover on ST10 to open grate.
Sawyer	Incorrect cover on ST6.	Change cover on ST6 to open grate.
Sawyer	Sediment and debris at many storm structures.	Perform maintenance at all catch basins (interior and exterior) to prevent clogging.
Sawyer	Erosion between CULV1 and CULV2	Fix erosion issues between CULV1 and CULV2.
Sawyer	Elbow on RD10 broken.	Replace downspout extension elbow on RD10.
Sawyer	Some ponding water in old salt shed.	If ponding water is creating issues in the old salt shed, floor drains could be added and connect to FD5.
South Haven	Several issues found with CULV4.	CULV4 should be cleared out and the end section repaired or replaced, or the culvert could be removed if it is no longer in use.

ACTIVITY POLLUTION PREVENTION 4: DOCUMENTATION OF ROAD MAINTENANCE ACTIVITIES

MONITORING YEAR: 2018

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** · ADMINSTRATION 1: Program Assessment and Reporting

OBJECTIVE

Document road maintenance activities related to stormwater and stormwater pollution control.

DESCRIPTION

Road maintenance activities include catch basin cleaning and street sweeping will be documented and reported to the Stormwater Program Manager on an annual basis for inclusion in the Stormwater Annual Report. MDOT roadways will be operated and maintained and storage facilities will be constructed to reduce pollutants washing into surface waters statewide.

ANNUAL REPORTING

- Estimate actual quantity of salt used for de-icing versus maximum calculated amount based on Maintenance Performance Guide 14100.
- Track hours of street sweeping and catch basin cleaning conducted.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Street sweeping will be completed and time commitments will be determined annually, based on annual budgets.	Reported by TSC Region Manager to the Stormwater Program Manager on an annual basis.
Annual Assessment: Refer to Figure F1 for recorded street sweeping activity, by region.	
Catch-basin cleaning will be completed and time commitments will be determined annually, based on annual budgets.	Reported by TSC Region Manager to the Stormwater Program Manager on an annual basis.
Annual Assessment: Refer to Figure F2 for recorded catch basin cleaning activity, by region.	
Follow MDOT Maintenance Performance Guide for all maintenance activities (road maintenance, street sweeping, catch basin cleanout, bridge, unpaved road maintenance, right of way, culvert, underdrain and edge cleaning, facility and truck washing, deicing, cold weather)	Maintenance Staff Manager to ensure all employees follow procedures.
Annual Assessment: All regions have been in compliance with the maintenance performance guidelines for 2018. A summary of winter maintenance including salt, sand, and liquid treatment statewide, per county, and per MDOT region is presented in the following pages. Refer to Figure F3 for recorded washout repairs per MDOT region, as well.	